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ADDRESSES AND ORIGINAL ARTICLES

THE PLACE OF MEDICAL SOCIETIES IN THE PROGRESS OF MEDICINE.*

BY RAYMOND CRAWFURD, M.D. OXF., F.R.C.P. LOND.,
CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL.

WE are gathered here to celebrate the centenary of the Harveian Society of London, and we are honoured by the presence of representatives of the sister society of Edinburgh, founded in 1782, and of that of New York, founded in 1905. The occasion may be not inopportune for considering some features of the life-history of medical societies in Great Britain.

Three Harveian Societies.

Human activity, in so far as it is enduringly fertile, is not the chance product of a few creative minds, but is conditioned by its antecedents and environment and tends to express the dominant tendencies of the time. Thus the Harveian Society of Edinburgh was born of a demand that found expression in various ways in the last quarter of the eighteenth century for the democratisation of medical knowledge. Phœnix-like it arose out of the ashes of an older Æsculapian Society, membership of which had been exclusive and limited to Fellows of the Royal Colleges of Physicians and Surgeons. The Harveian Society opened wide its doors not only to such Fellows, but also to medical graduates, neighbouring practitioners, and the naval and military medical services as well. The Scotch genius for conviviality seems to have asserted itself in the constitution of this society, as it kept in the forefront of its programme the cherishing of friendliness among members of the profession, and the degrees conferred by it included "Doctor of Mirth and Social Joy" and "Doctor of Merriment." So this society was true to Harvey's injunction as to the importance of cherishing actively the spirit of good fellowship as an assurance of usefulness and stability.

The Harveian Society of London was launched on its career of enduring prosperity at a time when educational reform was alive and active in every branch of intellectual activity. In London in little more than a decade University College, King's College, and the University of London came into being. Medical societies had already spread from their first metropolitan homes in Edinburgh and London to the provinces, and in 1819 a further tendency to decentralisation within the growing metropolis had declared itself in the foundation of the Hunterian Society, for the benefit of the medical profession in the East End of London. The purpose of this Harveian Society at its birth was to do the same for the West of London, for it should be remembered that in 1831 the centre of medical activity was not as now in Harley-street, but in the district adjacent to the British Museum.

One important function of medical societies has been to provide a medium for the conveyance of fresh knowledge from the centre to the periphery of the profession. Scientific discoveries tend to be minted in minds concentrated at the centre, but it is by the minds of the multitude of practitioners scattered throughout the country that the golden coins gain extensive currency. The flow of fresh knowledge has thus been mainly centrifugal, and very little in the reverse direction, for the country practitioner is more directly concerned with the art of medicine, which is individual and incommunicable, while the science of medicine is catholic and susceptible of ready transmission. A notable exception, however, to the general rule was Jenner's work on vaccination, a piece of scientific work that was readily practicable only in the milieu of a rural practice; while later still from the genius of Manson, Ross, and others, we at home have learnt that the highest scientific achievements may be compassed in the outposts of our far-flung empire. At its foundation this society declared its purpose to be "to promote a free communication and, whenever practicable, a demonstration of facts and inferences relating to all departments of medicine, regarded both as a science and an art." Here then was a common meeting ground for the exponents of both the art and the science of medicine and this throughout its hundred years of existence has been its peculiar cachet.

The Harveian Society of New York was founded in 1905: its avowed purpose was to convey to the medical profession generally, by means of lectures delivered by experts in different branches of medical science, knowledge gained by experimental investigation in the laboratory. It was felt that such knowledge was liable to be buried in specialised publications that were not readily accessible to the general practitioner. Anyone who is familiar with the annual volumes in which these lectures are published cannot fail to recognise the great measure of success that has attended this high endeavour. This society then is the natural corollary of the rapid growth of experimental research that has been an outstanding feature of twentieth century medicine.

Functions of a Society.

This brief outline of the activities of these three Harveian societies affords some indication of the various ways in which medical societies have aided in the diffusion of knowledge by the agency of discussions, papers, lectures, exhibition of patients and specimens, demonstrations and the printing of proceedings, but it does not cover the whole ground, for some societies have enlarged the scope of their transactions, so as to include reviews of books and abstracts of articles of scientific value, the usefulness of which to medical men can hardly be overrated, while others have added the manifold amenities of a well-organised library.

The *diffusion* of knowledge has been the primary, but by no means the exclusive purpose of medical societies, for the methods adopted for the active diffusion of knowledge cannot fail to have some share both in the *acquisition* of existing knowledge and in the *creation* of new knowledge; the larger and more affluent medical societies have indeed lent themselves to the acquisition of knowledge only in a less degree to its diffusion. In the acquisition of knowledge books and periodicals necessarily play an important part, and to this end not a few societies have provided their members with libraries, the most highly systematised of which have already attained a very high degree of utility and excellence.

The creation of new knowledge can in the nature of things form only a very limited part of the activities

* Address at the Centenary Celebration of the Harveian Society of London at St. Bartholomew's Hospital on June 11th, 1931.

of a medical society as such. It is true that the intercourse of fertile minds does give birth to new conceptions and these in turn engender others, and this constitutes a creative act, but the experimenter, who would commune with nature, must needs enter his chamber and be still, and his chamber is the laboratory not the meeting house. So, too, fruitful observation postulates the presence of the objects to be observed in a suitable milieu, and in the case of morbid material, living or dead, that milieu is the hospital or its clinical equivalent.

If we trace back the development of medical societies to its source, we find that the earliest were concerned at least as much with the acquisition and creation as with the diffusion of medical knowledge; the more restricted function has been gradually evolved. Both Bacon and Harvey have left us a picture of the constitution and scope of the society, to which they would have entrusted the future of medical science. Each of these men was a typical product of the spirit of an age that had its roots in the Reformation; each was a champion of the scientific scepticism that, with the emancipation of the human mind from the tyranny of authority and dogma, sought by means of observation and experiment to find a rational basis for the interpretation of physical phenomena.

Bacon's Plan.

Bacon believed that science might be immensely advanced if the whole civilised world could be linked up into one scientific federation for the creation and dissemination of knowledge, and his allegorical picture of Salomon's house in the ideal commonwealth of Bensalem represents the organisation by which he would make his idea effective. His college was to consist of 36 Fellows, half of whom were to be engaged in the acquisition and recording of all existing knowledge of discoveries and inventions from every conceivable source in all parts of the world; the other half, in six groups of three each, was to be engaged in the devising, directing, executing, and recording of new experiments. Such was to be the guiding personnel of his visionary college, of which the equipment was to be on the most lavish scale. If to-day some master-mind were to fashion a scheme by which all scientific societies, covering every branch of science, should be amalgamated into one colossal institute, if he were to give each professor a free hand to construct, equip, and staff his department on the most lavish scale the professorial mind could conceive, with the addition of an unlimited secretariat and foreign correspondency, the whole directed by an all-wise and all-embracing Research Council, we should still have but a pale exemplar of Bacon's House of Salomon.

It might appear that Salomon's House has but a slender claim to figure in the lineage of the medical society of to-day, but such is not the case, for there is indisputable evidence that it had a direct and important influence in promoting the foundation of the Royal Society, and further evidence that the earliest purely medical societies did consciously adopt as their model certain features that had been tried and approved in the constitution and procedure of the Royal Society. Bacon did not even differentiate medical science from the general corpus of natural philosophy, nevertheless he did include it, and made abundant provision for the acquisition and creation of new knowledge, while leaving the discoveries to be their own advertisement. Though Bacon and not Harvey is thus the true progenitor of our Royal Society, that great corporation has flourished not in the leading-strings of Bacon but by the free and independent pursuit of the method and practice of Harvey. That its birth was delayed until Bacon had been dead 36 years and Harvey was in his grave, was again an accident of the times brought about by the disintegrating influence of years of civil commotion.

Other influences than Bacon's large-scale plan contributed to the foundation of the Royal Society. Evelyn was one of its founders, and his letter to Boyle in 1659 indicating his willingness to endow at his own expense a College the members of which "would resign themselves to live profitably and sweetly together after the manner of the Carthusian Convent in Paris" shows that the example of the monasteries survived their demolition; his College was to do for science what the monasteries had done for religion.

Harvey's Contribution.

Due recognition has not been accorded to Harvey's place in the life-history of the medical society, though it is plain for all to see in the indenture, by which he conveyed to the College of Physicians his patrimonial estate of Burmarsh. Harvey was not the man to weave from his imagination the insubstantial fabric of a dream, as Bacon had done; he sought to build on foundations that lay ready to receive his superstructure in his beloved College of Physicians; in his mind, as in Bacon's, the organisation of the medical society had not emerged from the collegiate stage. In this indenture, after providing for an annual feast within the College, he ends with an exhortation "to search and study out the secrets of Nature by way of experiment; and also for the honour of the profession to continue in mutual love and affection among themselves, ever remembering that *Concordiâ res parvæ crescunt, discordiâ magnæ dilabuntur.*" In these words Harvey lays down the very lines on which medical societies have subsequently developed, their educational purpose being supplemented by a bond of good fellowship and conviviality. Harvey had only too good reason to appreciate the value of mutual friendliness to the advancement of medical knowledge. The acerbity and antagonism with which many of his professional brethren had greeted his proof of the circulation of the blood had sered the inmost recesses of his soul, and he is recorded as saying that the stoniest soil of all was in the minds of men over 40 years of age. He too had reason to stress the importance of the social bond. All his life he had been a solitary worker, tireless, as John Hunter after him, in the practical study of comparative anatomy. Only once do we catch a glimpse of him in active collaboration with a fellow-worker, comparing notes of his embryological studies with George Bathurst of Trinity College, Oxford who kept a sitting hen in his rooms to incubate eggs which he examined day by day to observe the stages of development of the embryonic chick. That Nathaniel Highmore was also independently at work at the same inquiry in the same College need not lead us to assume that the College eggs were peculiar in suggesting compellingly the study of embryology, but rather, as John Hunter has naively said of the development of birds in eggs, "It would almost appear that this mode of propagation was intended for investigation."

One more feature of many medical societies is forestalled in Harvey's will, devising a sum of money for a librarian and for the upkeep of the library he had already presented to the College, so that medical men might have ready access to the contributions

that others had already made to the sum of medical knowledge; and for the diffusion of knowledge were there not in existence endowed lectures, in which he himself had already achieved immortality by first setting forth in his Lumleian lectures his proofs of the circulation of the blood? Viewed then as a whole there is little in the constitution of the medical societies of to-day on which Harvey has not long since pronounced substantial benediction. Perhaps then our three societies have done well to adopt his patronymic, for the circulation of medical knowledge is as vital to the higher professional life as is the circulation of the blood to higher animal life.

The contrast of Bacon and Harvey is well expressed in some lines of Browning in the Grammarian's Funeral:—

> The low man seeks a little thing to do
> Sees it and does it;
> This high man, with a great thing to pursue,
> Dies ere he knows it.
> That low man goes on adding one to one,
> His hundred's soon hit:
> This high man aiming at a million
> Misses an unit.

The Royal Society.

Time does not permit me to retell the familiar story of the growth of the Royal Society out of the union of those two groups of gifted amateurs known as the Invisible College of Boyle and the Philosophical Society of Oxford, nor to insist on their indebtedness to the pioneer effort of Sir Thomas Gresham in the foundation of his College in 1575. The transition from a group to a society is something more than the passage from a coterie without a name to a coterie with a name; it is the first step towards the transference of an exclusive possession of the few to the participation of the many. The history of British medicine is punctuated with informal groupings of fellow workers, such as those of William Gilbert, Glisson, and Erasmus Darwin, for the tendency to cohere is an instinct of the human herd; such groupings become a society in name, when they adopt a formal constitution, but they do not become a society in spirit until the evangelist spirit animates and inspires them to propagate knowledge beyond the narrow confines of their own community or to enlarge the confines by an extension of membership. This evangelist spirit was dominant in the early years of the Royal Society, side by side with its primary purpose of stimulating the creation of new discoveries. At first the work of the meetings consisted mainly in the exhibition of experiments by members and the reproduction of experiments already made by other scientific workers, together with the reading of papers. Besides discussion of experiments shown, a feature was the devising of fresh experiments to be carried out elsewhere. Great pains were bestowed on keeping in touch with work in other countries by an organised system of correspondence with foreign scientific workers, whose letters were duly communicated to the society. Abstracts of important articles in foreign journals were made and read, so that the purview of the society was international. Further, the society took care by the publication of Transactions to communicate its own work to other countries, as the French *Journal des Sçavans* had begun to do for Colbert's scientific coterie three months previously; and in taking upon itself the publication of treatises the society was willing to assume the paternity of Newton's Principia. Medicine, or rather the embryo sciences out of which medical science was to arise, received generous treatment at the hands of the society, for two of its eight constituent committees, the anatomical and the chemical, were entirely in the hands of physicians who enjoyed there facilities not to be found in the College of Physicians.

So the Royal Society led the way in Great Britain in promoting the mutual exchange of views among its members by means of discussion and in the publication of transactions, which, both in what they received and what they gave, looked beyond the narrow confines of their own country, and both these features have figures in many of their descendant medical societies.

The First Purely Medical Societies.

So far as corporate action for the progress of medicine went, until 1731 the Royal Society and the Royal College of Physicians held the field. In that year there came into existence in Edinburgh the first exclusively medical society in the modern sense. The preface to the first volume of its Transactions leaves no doubt as to the reasons for its foundation, for these are explicitly stated to have been that the constitution of the Royal Society did not allow it to insert in its Transactions several things that a plan calculated for the improvement of physic would easily admit, and further, the belief is expressed that a collection of observations wholly relative to medicine would be the most effectual way to improve physic. It was not that medicine had proved to be a bad stable companion, but only that she could go better in single harness. The change was momentous, for it involved not only the segregation of medicine from the general body of science, but the handing over of its future to those who were not primarily concerned with scientific research, and the consequence of this was inevitable, that the diffusion of knowledge and not its creation became the prime purpose of medical societies. That Scotland should have led the way in the development of the modern medical society is due to the fact that Scotland was the first, inspired by the example of the Dutch, to organise in 1725 a medical school of practical clinical teaching, and the founders of this society were those teachers of the school who desired that their voices should be heard beyond the four walls of the Edinburgh school of medicine. The sole purpose of this society was the publication of medical papers, and there was no provision for reading or discussing them before the society.

In 1752 London followed suit in constituting its first medical society, and here again we must admit direct Scotch influence, for Fothergill, its founder, though a Yorkshireman, had received his academic training in medicine in Edinburgh, and had been a member of its second medical society. The London society limited itself to the publication of papers, and like its Scotch prototype rested on a narrow basis of membership of a few hospital physicians and surgeons. Each society was short-lived in its original form, for the Scotch society, by reversing the process of evolution, became first the Philosophical Society of Edinburgh by the inclusion of philosophy and literature, and later, in 1783, the Royal Society of Edinburgh. In this very same year the English society died a natural death, that not even the quickening influence of an annual banquet could stave off, for it had not been granted the faculty of making the dry bones of medicine live, without the vivifying guidance of Fothergill and William Hunter, who had been its mainstays. Maybe too that their

proclaimed purpose of excluding "whatever has rather a tendency to display the parts and erudition of the writer than to advance medical knowledge," led to a dearth of papers. This society, by its example, stimulated a group of Fellows of the College of Physicians, in 1767, under the leadership of Heberden to meet and read papers, which they issued in the form of "Medical Transactions"; but this effort to project the College along the lines laid down for it by Harvey flickered out with the publication of the last volume in 1820. One admirable suggestion in the preface to the first volume may still be practised with advantage: "It is to be wished," says the author, "that writers would not confine themselves to relate only their successful practice. A physician of great experience might write a very useful paper if he would have the courage to give an account of such methods of cure only as he had found to be ineffectual or hurtful." This hushing-up of mistakes and failures unhappily extends beyond writers and is an almost universal feature of hospital teaching to the very great impediment of the growth of clinical knowledge.

In tracing the expansion of the functions of medical societies, we must again look north to Edinburgh, where in 1734 a few students had banded themselves together for mutual assistance in their studies; Fothergill joined them in 1735. By 1737 they had formally organised themselves into a society, which growing from strength to strength built itself a hall, and in 1778 became the Royal Medical Society of Edinburgh. This society marked a definite advance on its predecessor, for it had formal meetings at which papers were read and discussed, but it maintained at first the tradition of exclusive membership. Being at the outset a students' medical society it gives Scotland the claim to have anticipated by many years the formation of the first students' society in London, the Physical Society of Guy's, that was not born till 1771.

Rise of Societies in London and Provinces.

For the first far-reaching democratisation of medical societies we must look to the foundation of the Medical Society of London by Lettsom in 1773. To Lettsom is due the credit of giving actuality to an idea, but beyond all question the society was the natural product of the professional circumstances of the time. Both Fothergill and Lettsom were Licentiates of the Royal College of Physicians, and each had winced under the stigma of exclusion from the Fellowship, which was the virtual monopoly of Oxford and Cambridge graduates, who were members of the Church of England. Fothergill had taken an active part in the struggle that was fought out between the College and its Licentiates, not only in the law courts, but with a show of violence on the floor of the College itself. Now Lettsom sought to sap the very foundations of the citadel of exclusiveness by setting up beside it a rival institution, as like as he could make it in constitution, and as little like in its spirit of professional exclusiveness. One cannot fail to see in its president, treasurer, registrar, librarian, council, library and museum; in the language and ceremonial mode of admission of Fellows; in the annual oration and much else where Lettsom looked for his model. From the first this society possessed a meeting-house furnished with a library, which Lettsom enriched greatly at his death. But there the resemblance ended, for Lettsom saw to it from the first that his society was broad-based on the enfranchisement of general practitioners on the same footing as physicians and surgeons. Lettsom's foundation seems to have served his purpose, for in 1782 a scheme was mooted for the foundation of a rival College of Physicians, to which the Royal College responded two years later by relaxing so far as to admit two rebel licentiates to its Fellowship.

With this democratic society in the field, it may be a matter of surprise that the Medical and Chirurgical Society should have come into existence in 1805. It is commonly alleged that this society was founded in dissatisfaction with the protracted presidency of one James Sims over the Medical Society. I find it hard to believe that our robust ancestors of 130 years ago were unequal to the task of unseating a senile president, and I find a far more satisfying explanation in the professional circumstances of the time. The fact was that a young cuckoo had been hatched and had already become too large for the parent nest, and that young cuckoo was modern scientific surgery, brought to birth by John Hunter. The very change of name from Medical to Medical and Chirurgical tells its own tale, and the chief figure of the surgery of the day, Sir Astley Cooper, figures prominently among the seceders. A ripple had already appeared on the surface of the water, in 1783, when John Hunter had established "A Society for the Improvement of Medical and Chirurgical Knowledge," the membership of which never exceeded 12. So exclusive a body was bound to go under in competition with its new democratic rival, and it died of inanition in 1818. Nor must we forget that the Royal College of Surgeons had come into being five years previously, in 1800.

So, if the birth of the first medical society in 1731 marks the severance of medicine from natural philosophy, and the birth of the Medical Society in 1773 marks the full democratisation of medical societies, we may recognise in the birth of the Medico-Chirurgical Society in 1805 the emancipation of surgery from the mortmain of medicine.

Meantime another notable advance had been taking place in the spread of societies from their metropolitan homes to the provinces. Warrington had a medical society as early as 1770, but no provincial society of that century was so famous as the Gloucestershire Society founded by Edward Jenner in 1788. The minute books of the Gloucestershire Society, in the handwriting of Jenner, are a treasured possession of the Royal College of Physicians, bequeathed to them by Sir William Osler, than whom no one in the whole history of medical societies did more to cement the social bond, by the charm of his personality, the catholicity of his friendship, and the inspiration of his enthusiasm as a crusader. In these manuscript pages you may find a living picture of a rural medical society of the day, but time forbids me to do more than reveal one gem from this treasure house. Rule XIII. reads: "That as a principal part of the view of the Society is the mutual communication of knowledge, without fear, reserve, or any other authority than that of Truth, no new member shall be admitted for these seven years to come whose age exceeds 40 years."

Specialist Groups.

I could have wished for time in which to unravel the tangled skein of fission and fusion, by which the Medico-Chirurgical Society has become transformed into the Royal Society of Medicine, for therein lies a typical record of the evolution of medical societies in the nineteenth century, but I must needs restrict myself to a few outstanding features. The first

quarter of the century, indeed almost the first half, was a period of static equilibrium, for surgery had now come into its own and was intent more on its own internal development than on its external relations; the process of decentralisation within the metropolis, which gave birth to the Harveian Society of London, showed however that animation was only in suspense. In the second half of the century we find the growth of medicine and surgery asserting itself in an orgy of fission, out of which arose a succession of specialised societies, each engaged in the pursuit of its own limited ideal; the Medico-Psychological Association seems to have struck the first note in England in 1841. But though fission was the dominant note, fusion never passed entirely out of sight. Time and again we find overtures for reunion of the Medical with the Royal Medico-Chirurgical Society, and efforts of young seceders to re-establish relations with the parent body; it remained, however, for the twentieth century to reconcile these antagonistic tendencies by a comprehensive scheme of federation. Of these specialist secessions two are of special interest. In 1846 the Pathological Society gave expression by its foundation to the feeling that existing societies paid inadequate attention to pathological subjects. It was indeed the case that until its foundation, in a period when the intensive study of morbid anatomy had become a central feature of medicine, provision for the exhibition of morbid specimens existed only in name; and in 1850, when the Pathological Society was seeking shelter beneath the roof it had recently deserted, the reply of the Council of the parent society was that the exhibition of many recent specimens would probably create a nuisance.

So again in 1867 the Clinical Society came into being as a result of the belief that the parent society cultivated too little the practical aspects of medicine and surgery but expected its members to extract nutriment from a dry diet of papers. Yet this young society for a decade of years was content to talk about cases instead of exhibiting them, and it was not till 1879 that it formulated regulations for the exhibition of living cases, and these seem to have borne no fruit until 1882. A lesson might have been learnt from the Medical Society, which was showing cases at its meetings as early as 1861.

Communications and Companionship.

In the contribution of medical societies to the advancement of medical knowledge we must look for no harvest of great discoveries; their function is rather to afford a meeting-place for the mutual exchange of everyday ideas. They do afford the opportunity to advance or to receive new ideas, to submit them to criticism and correction, and to purge thereby the dross from the ore, and in this intercourse of fertile minds new conceptions will certainly be engendered. They do provide facilities for intercommunication to every type of practitioner, and one lesson of Jenner's life seems to be that even in the isolation of a country practice, amid the hourly demands of a toilsome calling, it is possible with the aid of societies and interchange of ideas with those more fortunately situated, as John Hunter was, to keep the mind alive to every new source of information and even to carry out original investigations in many branches of medicine, biology, and natural history. The modern development of libraries, too, has brought wide facilities at a trifling cost to every practitioner's door, and along with the medical journals has rendered easy communion with the great minds of the present as well as of the past, both in this country and beyond the sea. Societies, too, have been important agents in promoting among medical men that feeling of good fellowship that is essential for fruitful coöperation; men's minds are massaged by rubbing against each other, and they rub off their angles by mutual attrition. In this conviviality has played its part, however humiliating it may be to reflect that the tiger in man needs ever to be appeased by the prospect or retrospect of a meal. La Rochefoucauld has said that nothing is so bad as we imagine it to be, and he might well have added "nobody." Few of us but are aware of some personal prejudice, founded on no better grounds than gossip or misunderstanding, melting like snow in the warmth of personal intercourse.

Anyone who studies the domestic history of medical societies cannot fail to be struck with one circumstance. Time and again a new need has arisen, but the dead hand of inertia has prevailed, and no step is taken to meet the new need; then fission takes place, and a fresh society emerges—often out of the very vitals of the parent society and to its detriment. Why is it that societies tend to lose responsiveness to their environment? Is it that their official administration has in the past been far too much in the hands of the older members? Were Harvey and Jenner and Osler right in believing that 40 years is apt to be quite as critical an age in the lives of men, as it is alleged to be in women's valuation of their own lives? If so, would it not be well that every society should have a regulation that at least one-half of its governing body should be under 40 years of age? That is a question to which I leave each one of you to make his own answer.

MATERNAL DISABLEMENT.*

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LECTURE II.

It was shown in the preceding lecture that there is a vast amount of maternal disablement following pregnancy, parturition and the puerperium, directly or indirectly caused; and that whereas the maternal death-rate is about 0·5 per cent. of all live-birth deliveries† the disablement rate would seem to be no less than 10 per cent. of all pregnancies. Such a state of affairs alone calls for serious national consideration. It seems almost incredible that every year one woman in every ten of those who bear children is to be more or less disabled or has to endure an operation to cure her injuries. Yet, in the absence of exact figures this seems a conservative estimate. Besides, probably many more bear in silence minor lesions which may prove fatal later. It is not unreasonable to hope that with an organised maternity service, exact statistics will be forthcoming a few years hence.

To every student of the subject of maternity in these islands it must be clear that while the mortality

* The Ingleby lectures delivered in the University of Birmingham on May 21st and June 4th, 1931. Lecture I. appeared in THE LANCET of May 30th.

† In this country the maternal death-rate is estimated in reference to every 1000 live children born. This is surely an incorrect method. It would be higher—probably 0·6—if all cases of stillbirth were included as they are in the Scandinavian countries.

should be reduced, and can be reduced, possibly by about one-quarter or one-third, there are few, I think, who knowing all the circumstances would be prepared to go so far as the Minister of Health[1] did when he stated that "not less than one-half—it might be more—of these maternal deaths were preventible." Until the state of affairs which I envisage has existed for two generations such an improvement is but an armchair dream. There must be a large irreducible minimum so long as the present high percentage of pre-adolescent crippling obtains among girls. Still, it may be possible by organised effort to save one life, now lost, in every 1000 labours—a saving to the country of about 1000 women a year. But it follows, too, from what has been said that women in danger who are saved are generally women seriously injured; consequently, putting aside the question of producing sound mothers, a properly organised scheme should include the prevention and treatment of obstetrically crippled mothers, as well as the saving of their lives. If 1000 lives were conserved, it seems not improbable that, employing the same ratio (one-third), 20,000 women might annually be saved suffering and disability in the immediate future. I need say nothing of the gain, economic and domestic, that would accrue to success along these lines.

I think that this lecture can, therefore, be best employed in the presentation of some ideas on the more important administrative aspects of a national maternity service. I want to make it quite clear, however, that they are my own views only, although I know they are strongly supported by some of the leading obstetricians in Great Britain.

My remarks are not intended to reflect adversely on anyone or anything. Medical practice and medical facilities pass through many stages of evolution, and so does the human mind. The suggestions advanced are merely for another great step forward, and I realise there will be many more in the future. It is, I think, generally admitted that large changes from the present somewhat disconnected and haphazard methods are overdue, and that criticism without construction does nothing more than hamper progress.

A Central Administrative Council.

All practising obstetricians are, I think, agreed that a fundamental requirement is that there should be an *ad hoc* central, independent, administrative body of small size—say 14 in number—and as far as possible autonomous in character. This council should consist of representatives of the Ministry of Health, public health authorities, the British Medical Association (representing general practitioners), the British College of Obstetricians and Gynæcologists (representing consulting obstetricians), and of pædiatricians, with an independent chairman. It will be noted that representation, at any rate at first, of the nursing service has been omitted, and this is because in my opinion the nursing personnel needs great alteration, and the introduction of conflicting interests at the start would be most undesirable.

Recommendations and reports of the central administrative council, like those of a Royal Commission, should be submitted directly to the Government—that is, in fact, to the Minister of Health. The Government would, of course, have the power to reject any proposal, but would be answerable to Parliament, and so to the country, for its actions and policy in this direction. Information and instructions should be distributed by the Ministry of Health, which should be responsible for conformity on the part of county councils and municipalities.

It is said that the establishment of this *ad hoc* body would cut diametrically across the existing legislative procedures and authority. Parliament has conferred the responsibility of preserving the health of the nation on the Minister of Health who acts, presumably, on the advice of his department; and by further legislation—as in the recent local government Act—powers are devolved on county councils and municipalities. In all this there is no effective arrangement made to ensure that those who know most about the subject shall be consulted directly, and the whole business is disintegrated, rather than coördinated, among the numerous and heterogeneous bodies in which authority is vested. It is absolutely essential that there should be some central authority to amalgamate public and voluntary effort.

Since feeling is being stirred by all political parties because there are 3000 immediate maternal deaths yearly, what will be said when I assert the annual mortality is in reality 8000–10,000—for remote as well as immediate mortality should be considered—and that about 60,000 mothers are crippled annually? Surely all political parties will be prepared to vote for any Act of Parliament which would confer power to deal with the question on a *competent* and *efficient executive body*, such as that suggested. At any rate it is by this course alone that an immediate and appreciable change will be effected in this appalling maternal holocaust. We scrapped procedure and legislation to save life in the late war. Let us do so again in this matter of maternal life and disablement.

General Organisation.

One of the great difficulties of organised maternity work at the present time is the scattered distribution of maternity practice. While in the large cities, especially those with teaching-hospitals, a considerable degree of coördination and coöperation is possible, if not actually in being, in the smaller urban and rural districts, adequate facilities are non-existent or imperfectly realised, and unified control is difficult to establish, and will become impossible unless some central council such as that I have indicated is brought into being.

What is needed first of all is a system of linking-up, much on the lines of military medical services in war-time. The whole country should be divided into areas in each of which one or more large bases, preferably with teaching-hospitals, are situated. Such a base could function for a district with a radius of 50 miles. County town hospitals in this area should act as field hospitals and the smaller outlying hospitals as casualty clearing stations and emergency centres.

The "competition" between voluntary and municipal effort must cease, and all resources must be pooled. At the present time, urged by the Ministry of Health to speed up facilities, certain municipalities are erecting large maternity hospitals and are conducting maternity homes, under the ægis of the medical officer of health without reference to the leading consulting and practising obstetricians in the places concerned, with the result that the beds are not available for teaching purposes, and are not always in the charge of expert obstetricians even in large cities.

It may be said in regard to such a position that, whereas the financial resources are at the disposal of the public authorities, expert knowledge and skill

are almost entirely the monopoly of the voluntary organisations. Surely such inequalities of distribution of the fighting forces is contrary to the interests of the public; coördination and coöperation under unified control are essential. So it is that I press urgently for a concrete national service to secure the linking-up and the pooling of all resources—intellectual, material, and financial—in order that coöperation, coördination, and therefore general efficiency, which is often lacking to-day both in hospital arrangements and the medical, nursing, and administrative services, may be obtained.

I shall now turn to some of the details of a complete scheme, but first let me enumerate the desiderata for such an organisation, in order that I may afterwards enlarge on some of them.

Desiderata.

ACCOMMODATION FOR TRAINING AND PRACTICE.

1. *Base Hospitals.*—(*a*) For teaching and training of students and nurses. (*b*) With university laboratory facilities. (*c*) With maternity (minimum 40 beds) and gynæcological wards (minimum 30 beds). (*d*) With consultative antenatal, postnatal, and infant welfare clinics—internal and external. (*e*) With specialist facilities.

2. *Field Hospitals.*—(*a*) The larger general hospitals. (*b*) With clinical laboratory facilities. (*c*) With maternity wards (minimum 25 beds). (*d*) With specialist facilities. (*e*) Antenatal, postnatal, and infant welfare clinics—internal and external.

3. *Emergency Hospitals.*—(*a*) Cottage and small country town hospitals. (*b*) With one-quarter of the total number of beds for maternity cases—not less than 3 in all. (*c*) Antenatal and postnatal clinics—internal.

4. *Hostels for Nurses.*—(Domiciliary practice).

5. *Domiciliary Arrangements.*

PERSONNEL.

1. *Medical.*—(*a*) Consultants: obstetrician, physician, surgeon, radiologist, ophthalmologist, rhinolaryngologist, dentist, biochemist, pathologist, and pædiatrician. (*b*) General practitioner and anæsthetist.

2. *Nursing.*—Maternity sister superintendents, maternity sisters, maternity staff nurses, and maternity nurses. All to be fully certificated nurses with a certificate in obstetrics.

3. *Administrative.*—Central administrative council; Ministry of Health; local executive in each area.

Accommodation.

Accommodation is related to in-patients and out-patients—antenatal, natal, postnatal, and child welfare—to laboratory facilities, to undergraduate and post-graduate students, to medical and nursing indoor staff, and most importantly to the housing of the "district" nursing staff. The last I shall consider separately. With the "linked-up" system advocated the needs in different parts of each unit would obviously vary, but economy would be served by the facilities at the base being available for the rest of the unit.

BASE HOSPITALS.

The base hospital accommodation should be in one, but often necessarily in more than one, large general teaching-hospital in the city forming the centre of the unit. General hospitals are preferable in every way to special maternity hospitals for the following among other reasons:—

(1) *Finance.*—The cost of building a maternity and gynæcological department in, or attached to, a general hospital is much less than the cost of building a special maternity hospital, for one administrative block and other building arrangements in the former serve the whole. Moreover, no special maternity hospital, so far as I know, contains a gynæcological department; and it is absolutely essential that there should be gynæcological wards in association with every maternity department. The cost of upkeep, too, is more spread-out, and therefore less per maternity bed in a general than in a special hospital.

(2) *Special Consultative Facilities.*—Clinical, radiological, and laboratory (often university) coöperation is more readily available in a general than in a special hospital. Moreover, a sense of proportion is maintained, especially in antenatal work, for the student sees the consultative side of it when he is doing his medical clerkship since he accompanies his chief when he visits the maternity wards to examine cases of heart disease and pregnancy and other medical conditions, and to give advice concerning their management. Such excellent teaching facilities do not obtain in special hospitals. It is most desirable, as we have seen, that obstetrics should not be divorced from medicine and general surgery, any more than it should be separated from gynæcology.

(3) *Nursing Staff.*—In general hospitals the responsible staff all become fully certificated (S.R.N.), and the maternity wards are staffed by the same nurses as those in charge of the rest of the associated clinics—antenatal, postnatal, infant welfare, and gynæcological, as well as the medical and surgical.

The fully certificated nurse acquires a conscience for asepsis, working as she does in a surgical atmosphere, and, owing to her medical and gynæcological experience, she is competent to attend to all the antenatal and postnatal difficulties that may arise as well as the natal in which she should receive full obstetrical training. Enough was said in the first lecture to make it clear that there is a very considerable amount of constitutional as well as gynæcological disablement—matters quite outside the province of the ordinary midwife, yet requiring skilled nursing. In many special maternity hospitals the sisters—and even the matron—have the certificate of the C.M.B. only, and are not scientifically qualified, therefore, even to train the ordinary midwives in the modern requirements of maternity work.

It will be gathered that one of the essential features of a national maternity service should, in my opinion, be the employment of fully certificated nurses (S.R.N.) with a further obstetrical certificate. The present midwife type should be gradually eliminated. I shall deal with the matter more fully directly, for the present clear-cut difference of opinion on this question must be examined in all its aspects.

The famous, long-established maternity teaching hospitals, would, of course, function in base centres in association with general teaching hospitals, and we need not consider their facilities further, for during recent years the disadvantages attaching to them have been recognised and remedied, so far as this is possible. It must, however, be urged that no new maternity hospitals should be erected, as is now being done in many municipal areas. There is no justification for such expensive and far-from-ideal institutions. Better much that with coöperation between voluntary and

State endeavour, the municipalities should build and support departments in obstetrics and gynæcology in existing general hospitals or build municipal general hospitals where they can be staffed by experts.

Little need be said here about the structural requirements of a perfect maternity department. There can be but little difference of opinion on the general aspects of this important matter (see Plan).

Isolation Accommodation.—It is necessary, however, to mention that some form of what is known as the three-division arrangement for the accommodation of clean, suspect, and infected cases is essential. It is possible that in large cities, where more than one teaching-hospital is acting as a base, a central unit for infected cases should be built to serve all the hospitals comprising the base centre. In this case the isolation accommodation should be under the charge of obstetrical experts, and the cases admitted thereto should be available for teaching purposes.

Antenatal Wards.—In each of these hospitals there should be an antenatal ward containing beds about one-third in number of those allotted to clean cases. As with the out-patient antenatal clinic directly attached to the teaching-hospital, the patients received in the antenatal ward at the base would consist partly of those sent from outlying areas for consultation. These wards would form centres for consultative work with physicians, radiologists, and other specialists.

Gynæcological Wards.—Emphasis, too, must be laid on the outstanding necessity of adequate provision at base hospitals for gynæcological wards. We have seen that about 75 per cent. of maternal disablement arises from local injury and infection—conditions which can be satisfactorily treated by expert gynæcological surgeons to-day; and for this reason a majority of such cases should be referred to base centres, and a sufficient number of beds should be provided.

FIELD HOSPITALS.

Field hospitals would consist of the better-equipped general hospitals in the smaller towns. They should function for their immediate district. In each there should be a maternity department served by an antenatal clinic and in association with antenatal clinics in the neighbourhood. The more serious and difficult cases should be referred to the base centre. Since at present in most cases maternity beds in these institutions are provisional, it would be advisable to build blocks affording proper accommodation and isolation facilities. Indeed, these would be the same as those obtaining at base hospitals but on a smaller scale. A standard plan, such as that illustrated, should be utilised, but adapted to local exigencies.

EMERGENCY HOSPITALS.

Emergency accommodation should be provided in the ordinary rural cottage hospitals, in which a few maternity beds should be maintained for the immediate district in which they are situated. Cases from them or the antenatal clinics close by could be referred to the base hospital, or in specially urgent cases assistance obtained therefrom.

ISOLATION IN OUTLYING AREAS.

In outlying urban and rural areas it would probably be found desirable to have one conveniently situated isolation hospital, or block, to meet the needs of a large district. This might be situated in the same town as that in which there is a considerable population and a field hospital, and it should be under the charge of the most experienced obstetrician available. The evil of suspect cases being placed in wards of the smaller hospitals with clean cases, and possibly nursed by the same staff as that in attendance on other maternity cases, is one calling for immediate solution.

Antenatal, Postnatal, and Infant Welfare Clinics.

The importance of these clinics will have become evident from what has already been said in the first lecture. They will not only deal with the immediate necessities of the expectant and postnatal mother and of her child, but also with the creation of normal and healthy women—the potential mothers of the next generation.

There should be, as already indicated, a network of clinics over the whole area. At the base hospitals these would be held in the out-patient departments, and be largely of a consultative nature and be controlled by experts. In the city around there would be many more clinics, under the control of junior experts or in some cases of general practitioners specially chosen. All these clinics in the immediate neighbourhood of a base centre should be definitely associated with the base teaching-hospitals, and be used for the teaching of students and nurses and for the work of post-graduates.

The antenatal, postnatal, and infant welfare clinics scattered further away throughout the area would be connected immediately with the field or emergency hospital, but difficult or doubtful cases would be referred to the base hospital directly. These clinics could all best be held in the same place, a pædiatrician or general practitioner, according to the locality, undertaking the infant welfare clinic.

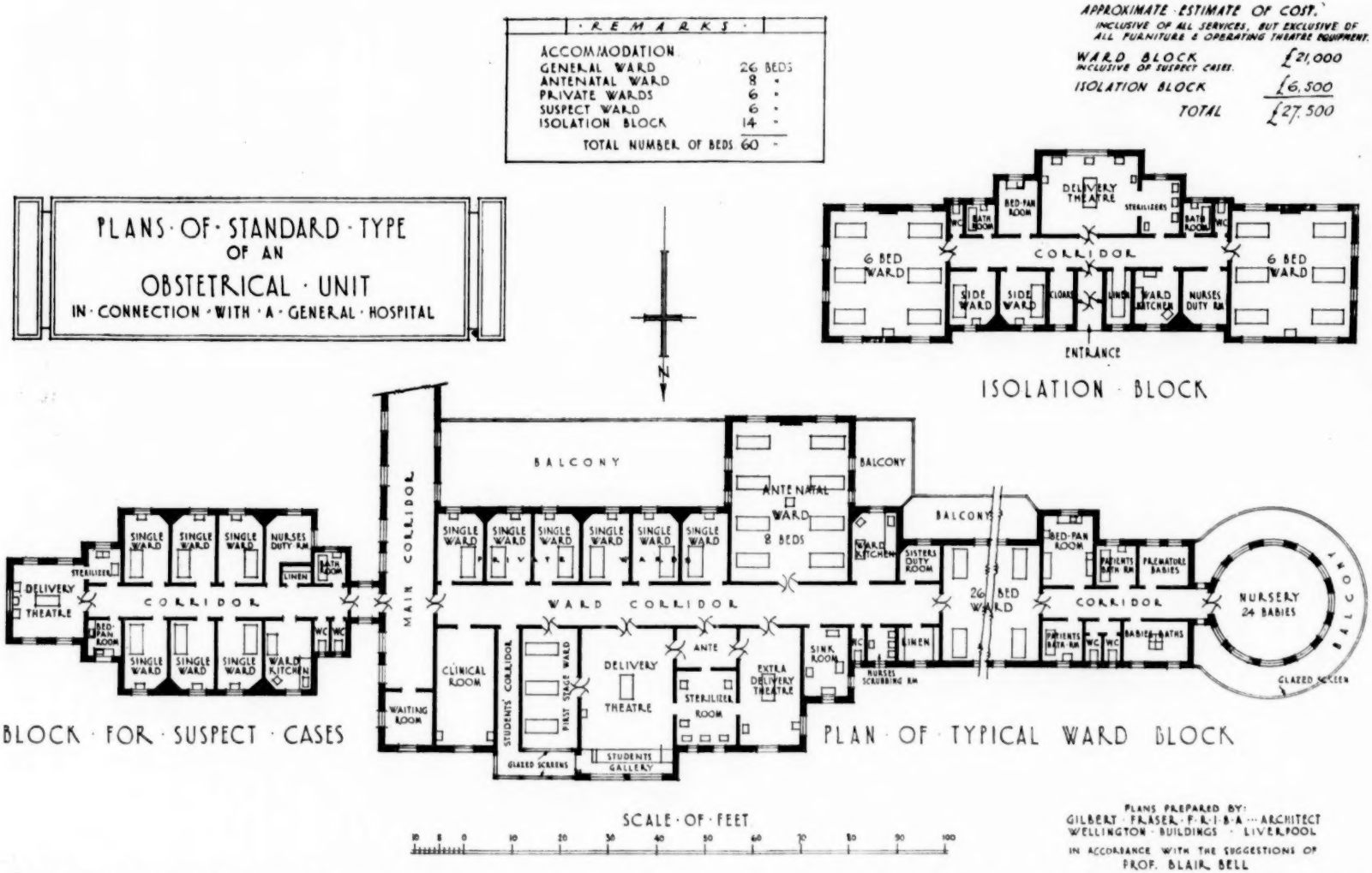
Special Services.

An efficient *anæsthetic service* should be maintained not only in the large base hospital centres but in the outlying districts, and this should be available in all areas for domiciliary practice. This is a matter that requires very careful consideration, in view of the inherent difficulties of anæsthesia, and the methods thereof in certain cases. A readily available *motor service* should be at the disposal of every doctor who wishes to transfer a patient to hospital. *Home-helps*, in those cities where a proper organisation for supplying them has been in existence, have proved of great value in domiciliary practice, and should be incorporated in the national maternity service.

Personnel.

MEDICAL.

Base Hospitals.—The control of base centres should be in the charge of a consultant obstetrician and gynæcologist, preferably of professorial rank, for this would give him direction of the laboratory for investigation and research, and bring university facilities and prestige into the national maternity service. He should, of course, work in full coöperation with his consultant colleagues in the various base hospitals, if there were more than one in the centre, and with the public health and nursing authorities. He should also be responsible for all the teaching arrangements. Numerous junior consultants should be in charge of the clinics and a pædiatrician should undertake the infant welfare work. The many other specialists already mentioned should be definitely coöpted to the service at the base. The



Plan of a standard three-division maternity department attached to a general teaching-hospital. The admission room, which should be near to the hospital entrance, is not shown. The main ward is "broken" in the plan. It will be noted that the three divisions are self-contained, and that in the suspect blocks beds are in single rooms only, in order that the cases may be removed after investigation to the isolation block or to the clean ward according to the findings. There is accommodation for a few private cases. Sunny open-air balconies should be provided in the "clean" division and in the isolation block; these are not shown in the plan of the isolation block. Attention may be called to the bed-pan-sterilising and storage room, the room for premature babies, the round nursery with a big balcony and vita-glass roof, and to the arrangements for students to observe labours in progress.

assistant staff should be available for consultative and operative work within the area of influence of the base centre.

In the field hospitals general practitioners would no doubt be in charge with juniors assisting in the department of obstetrics and the associated antenatal clinics.

It seems probable that in the future, with the improved undergraduate and post-graduate teaching that is now foreshadowed, and with the conferment of diplomas in obstetrics a very competent general level of knowledge and practice will be reached; but this should not lead to each rural centre becoming a base, for it must be remembered that the teaching will be conducted at the real base centres, and that the men who devote their lives to the subject will be stationed there specially equipped by experience, long training, and facilities for the more difficult part of the work. Moreover, it is here that physicians, pædiatricians, radiologists, and other specialists will be attached to the service. If, however, the scheme adopted be a really national one with the maintenance of a complete system of records, not only of maternal mortality but also of disablement, a check can be kept on the practice throughout the country; and this will become especially useful provided the chief obstetrical officer in each district has direct and confidential access to the central administrative council. In all the circumstances I have envisaged—namely, better undergraduate and post-graduate training, increased local facilities and friendly consultative coöperation—there need be little fear that the medical service throughout will be highly efficient and loyal to the interests of all concerned.

NURSING.

I now return to a part of the national maternity service which requires further consideration, and the more so in that opinion on the subject is divided, in order that once and for all I may examine the arguments that have been advanced for perpetuating a system which I hold to be wholly inadequate to the requirements of modern scientific obstetrics.

Many agree with the view that the advent of the fully certificated nurse-midwife is inevitable, but only in the sense that this natural evolution must, as they think, come to pass. At the same time advocates of the present type of midwife affirm that she is satisfactory, although a longer period of training would be an advantage.

This is a point of view I find it difficult to understand. Either the present midwife is all that can be desired, or she is not. If the latter be the case, and it is, as I shall show, impossible for many reasons to educate her further—say for two years—why should we not at once adopt the principle of the S.R. nurse-midwife?

I, myself, am of the opinion that a nurse should be State-registered before she is allowed to take an obstetrical certificate, and that as soon as practicable none other should be allowed to undertake maternity work. It is interesting to note that the idea of the S.R. nurse-midwife is accepted in the interim report of the Departmental Committee on Maternal Mortality (1930).

The chief arguments used by those who advocate the retention of the partly trained midwife are as follows.

(1) Since it is admitted that the present training is inadequate, the midwife, it is said, should have two years' training, and this should include some teaching in general medicine and surgery.

(2) The present midwife is best suited to the conditions of maternity practice of a domiciliary character: (*a*) she is unlikely to attempt to interfere with labour; (*b*) she has borne successfully and well the brunt of maternity practice for many years; (*c*) the high mortality-rate is not the fault of the midwife; (*d*) a maternity service could not be established without her—that is, the fully trained nurse would not undertake the ordinary domiciliary practice.

(3) In the Scandinavian countries, where midwives with two years' training are employed, the maternal mortality is less than half of that in this country.

The United States are quoted as having a high maternal mortality-rate, and by an advocate of our present midwifery system[2] it has been said that this is because "they have no midwives," and that "there is the peak of maternal mortality."

My main thesis is, of course, maternal disablement, but this is directly related to efficient practice, and indirectly to the number of maternal deaths, and further all of the nursing in connexion with maternal disablement is beyond the knowledge and training of the ordinary midwife.

Before developing my scheme for the employment of the State-registered nurse with an obstetrical qualification, I shall deal with the arguments submitted above by those who would retain the present type with further training.

(1) In respect of further training it is the opinion of many of us that a very large number of the women who present themselves for the present training, and are almost automatically accepted, are uneducable, especially in a scientific subject. It might be possible to get over this difficulty by a preliminary examination, or by taking only one in every ten applicants as obtains in Denmark; but in either case there would be few midwives in the north of England. Supposing, again, that the present class were accepted and a further period of one year's training in respect of medicine and surgery ordained. Where is this to be given? Certainly not in the big teaching-schools. It is doubtful whether any hospital giving a full training to nurses would admit them. It would mean a revolution of the nursing system, for many of those intending to take the full course would be excluded. Further, the present class of midwife could not afford two years' training. It must be noted that in Sweden the midwives are not taught anything at all about medicine and surgery during their two years' training, so Prof. Essen-Möller informs me. Moreover, in this part of the world the women are of a higher class than obtains in this country.

(2) (*a*) It is true that in this country the midwife does not interfere. In Scandinavia the midwives are taught to apply forceps. The real point is whether the former know enough to seek assistance *in proper time*. Some experienced midwives undoubtedly do; many do not; all should.

(*b*) The midwife has certainly done good work; but her predecessor was not hard to follow. The question, however, is this: can she give the same skilled attention as the fully trained nurse? She knows nothing of constitutional antenatal conditions, and nothing about postnatal. A nurse who has been trained in medical and gynæcological wards is familiar with both. Moreover, as I have already said, a nurse who had seen much of general surgery acquires a sense of surgical cleanliness and technique unobtainable in any other way.

(*c*) The low mortality attributed to midwives I hold to be a fallacy, for they call for medical assistance in about 25 per cent. of all cases attended by them.

(*d*) The impression of many that the domiciliary maternity service could not be conducted without the

present type of midwife is, I think, erroneous. The question resolves itself into the following:—

(1) Are there enough fully certificated nurses holding an obstetrical qualification? There are. In Scotland, for example, in 1925–26, 496 women entered for the C.M.B. examination, of whom 351 were already fully certificated and 145 not certificated; in 1928–29, 403 women entered of whom only 40 were not fully certificated. Again, in England, in 1928, 2811 persons entered for the C.M.B. certificate, of whom as many as 1730 were already fully certificated (S.R.N.). It is truly said that only about 25 per cent. of the State-registered nurses with the C.M.B. certificate practise midwifery. But more are doing so every year. The "Jubilee" nurse-midwives are all fully certificated, and they do domiciliary practice. At any rate, there are enough fully certificated (S.R.N.) with obstetrical qualifications for the whole country if they would engage in domiciliary practice. This brings us to the second point.

(2) Can the inducements be made attractive enough to ensure that a sufficient number of fully trained nurses will engage in practice? I think they can, and I shall deal with this matter directly.

(3) Last, in support of the suggestion that midwives—that is, women with the C.M.B. certificate only—should be retained, with perhaps a longer period of training, it has been asserted by those who clearly have not studied the question fully on the spot that in the Scandinavian countries the maternal mortality is considerably less than our own‡ and that this is due to the two years' training given to midwives. No statement could be more misleading and less true. So far as the midwives themselves are concerned, they are undoubtedly superior in general education and position in life to those in England and Wales—especially in the north of England. In Denmark about 30 in all are qualified annually, and of all those who apply for training only 1 in every 10 is accepted; some are of the position of teachers, doctors' daughters, and so on, and I am informed by Prof. Essen-Möller, to whom I am much indebted for information, that attempts are being made in Sweden to secure an even higher class, for among the fully trained nurses in that country are members of the aristocracy.

Two years' training of such a selected body of women is certainly an advance on what is done here. In Sweden, however, no training is given in general medical and surgical nursing; consequently the midwives must be handicapped in antenatal work, but this branch of maternity practice seems to be less necessary in Sweden than in Great Britain. The people of that country live in hygienic surroundings; they are very healthy and well-fed, and in this connexion it is interesting to note that the average quantity of milk consumed by each member of the community is six times greater in Sweden than in this country. Pelvic contraction is almost unknown. Prof. Essen-Möller writes: "Pelvic contractions are very rare . . . . we have no figures of the frequency of contracted pelvis in Sweden, which may prove that those cases are met with very seldom." Hence the low mortality from sepsis, which so often follows difficult and assisted labour.

Again, it is important to emphasise the fact that in Stockholm 94 per cent. of all confinements take place in the wonderfully equipped hospitals; in St. Malmo and Gothenburg about 85 to 90 per cent., and about 30 per cent. for the whole country. In England and Wales, so far as I can calculate, not more than 6 to 8 per cent. of all confinements take place in hospital. In Sweden, taking the country as a whole, about one-third of all cases are confined in hospital. In this country only about one-tenth of all cases are accommodated in hospital—a very notable difference. Moreover, it must not be forgotten that in the Scandinavian countries generally the mortality-rate is much higher—namely, 4·8 per 1000 labours in 1925—than in Sweden in 1922.

It is necessary to examine on its merits the demand made by some that the midwifery service of this country should be modelled on that obtaining in Scandinavia, and this I have tried to do. While there is no doubt that the Scandinavian midwives are superior to ours in that they are selected and have longer training, and being few in number can be carefully watched, the enormous fundamental differences, just indicated, in respect of the patient herself, account for the lower mortality-rate; this is not due to the midwife, as is so often suggested. It may, therefore, be confidently stated, then, that in Sweden the maternal mortality and disablement is low not only because of the good health of the people and hygienic conditions in which they live but also because pelvic contraction is almost unknown, and therefore sepsis is uncommon, and because a large proportion of all cases is confined in hospital under expert obstetricians. The midwives have little or nothing to do with the question.

Since in England and Wales sepsis is responsible for 40 per cent. of all deaths, and this phenomenon is almost always the culmination of a series of contributory factors among which pelvic contraction with "disproportion" takes a high place in the British Isles, it is clear that in this country also maternal disablement following trauma and sepsis will be much more frequent.

The statements made concerning America that "there is the peak of maternal mortality" "because they have no midwives" are, as I have said, inaccurate. In spite of the almost insuperable difficulties of securing uniformity of practice and registration in the different States, the figures are very carefully surveyed in the U.S. Government reports. According to the latest in my possession (1925) the following statistics of deaths from puerperal causes per 1000 live births are given among many others by way of national comparison.

Ireland.		*England, Scotland, and Wales.*	
All puerperal causes	8·2	All puerperal causes	5·7
Puerperal septicæmia	3·1	Puerperal septicæmia	2·3
Other causes	5·1	Other causes	3·4
United States.		*Denmark, Norway, and Sweden.*	
All puerperal causes	6·2	All puerperal causes	4·8
Puerperal septicæmia	2·3	Puerperal septicæmia	1·7
Other causes	3·9	Other causes	3·1

The United States of America are not at the peak, even for civilised nations. Moreover, we find in the U.S. Government Report the following interesting statement:—

"Comparing the rates of 1925 with those of 1915, for puerperal septicæmia, the United States (with registration area of 1915) had *the same rate* for both years, England and Wales an increase of 6·7 per cent. in its rate. For other puerperal causes the United States showed an increase of 2·7, England and Wales a decrease of 7·4."

I am very grateful to Prof. F. S. Newell, of Harvard University, for much valuable information on the subject.

If any conclusion can be drawn from the above statements it is that America practises what Dr. John Fairbairn calls "meretricious aids" more

‡ This is true of Sweden only, in which country the figures for 1922 show the mortality is almost exactly one-half (2·5 per 1000 labours) of that obtaining in England and Wales. Yet it is probably even less, comparatively, for in Sweden *all labours* are taken into account, but abortions and ectopics are excluded; whereas we include the latter and only count maternal deaths in women who give birth to live children—a quite ridiculous standpoint, for many serious cases end in death both of mother and child. In addition, as I have shown, the maternal disablement in Sweden is negligible.

cleanly than we do, and that our antenatal system is more general than hers. Anyway, there is no justification for such misleading statements as those made.

I have directed special attention to the question of the nursing personnel, not because I wish in any way to assert that our present mortality and disablement rates are due entirely to the present type of midwife *per se*, but because I think it advisable to expose the nature of the evidence which is put forward in support of the claim that she should be retained, and because I do not believe it to be possible to have an efficient maternity service without fully certificated nurses. I may be asked what I mean by this. Let me try to explain.

First, the present type of midwife is anomalous; she is a makeshift between the completely untrained and the fully trained nurse. She cannot, therefore, be regarded by medical practitioners as a colleague in the sense that the fully certificated nurse is. We all know, too, how a surgically competent nurse prevents any laxity on the part of the surgeon or practitioner. She is an influence for good wherever she works, whether it be in a surgical theatre or the home of the patient.

Secondly, no training that can be given to the present midwife—even supposing it were possible for her to afford the expense and that teaching-hospitals were willing to take her—will make much difference to her efficiency. Nor will additional training evoke in her that spirit of comradeship and discipline and willingness to coöperate which are such prominent traits in fully trained nurses, and which are essential to a linked-up scheme in which S.R. nurses will be working within the sphere of influence of their training schools, if what I propose comes to pass.

CONDITIONS AND ENVIRONMENT OF WORK OF THE S.R. NURSE-MIDWIFE.

It is believed that of the State-registered nurses who take the C.M.B. certificate at the present time in England only about 25 per cent. take up obstetrical practice subsequently. We know, however, that in Scotland relatively few women without a full training now take the C.M.B. certificate, and that all the "Jubilee" midwives, with their excellent record, which I have not time to present or discuss, are State-registered, and I have shown that there is no lack of State-registered nurses who take the C.M.B. certificate in England and Wales. What, then, are the causes that lead to their taking certificates but not practising?

First, it is certain that most of the S.R.N. who take the C.M.B. certificate do so because it is necessary or an advantage to possess this qualification if they wish to occupy the higher posts in their profession. Second, medical officers of health appear to make it a *sine qua non* that S.R.N. applying for posts of health visitors shall have the C.M.B. certificate also. In discussing this matter not long ago with the medical officer of health of Liverpool, I suggested that it would be far better not only to insist on this, but also to accept no nurse until she has been for three years in obstetrical practice under a national maternity scheme. Third, the conditions of domiciliary practice are not such as to render the work attractive to educated women; and it is with the last matter I shall now deal.

The conditions essential to the service envisaged, and attractive to the S.R.N., comprise satisfactory arrangements in respect of: (1) housing and feeding; (2) responsibility, and hospital atmosphere and discipline; (3) post-graduate facilities; (4) regular work and holidays; (5) adequate payment and pension; (6) promotion. The last four requirements are relatively simple problems; the first two comprise the crux of the situation.

Hostels should be established throughout each area. These should be occupied by a sister and three to five nurses; and attendant service should be provided. Here the nurses would live in companionship, relieving each other after definite periods on duty, and the atmosphere and discipline of hospital would be maintained. The freshly qualified nurse would work for a time in a hostel in close association with her teaching school to which she would go for regular post-graduate teaching. Later she would be moved further afield. Extended experience and promotion would follow.

Conditions of work.—The nurse should be taught to realise that she is a link in the system whereby the maternity service would be carried on, and that she is as it were an outpost in her area, with an experienced sister behind her and responsible medical assistance always available. She should have periods off duty and regular holidays, and in country districts small cars should be at the disposal of the hostels, that the nurse may not be physically tired. Her material comforts would be catered for and she would be cared for when ill, another being on hand to take her place. Each hostel would supply the nurses required at the antenatal and other clinics—these, indeed, might be held in a specially built room attached to the hostel. Moreover, arrangements could be made for the district nursing to be conducted by the hostel nurses in turn, for periods of, say, three months at a stretch. This experience would be prized, and would maintain their interest in general medicine and surgery.

I believe a really efficient service could be constructed on these lines, and as I have said the expense would not be great—possibly less than the amount expended to-day.

Summary.

In conclusion, it seems to me, then, that there must be a central administrative council as far as possible autonomous, and that in the ideal maternity scheme we must aim at coöperation and coördination of the best type. This can only be secured by amalgamating all the resources of the country, and by ensuring that the service shall be fully linked up in limited areas, and that the personnel shall be as efficient and mutually compatible as it is possible to make it. Now is the time, when the occasion urgently demands and the opportunity presents, for a great step forwards, not only to save the maternal lives but also to ensure that by skilled attention, rightly utilised, crippled mothers shall be fewer than they are to-day.

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ST. BARTHOLOMEW'S HOSPITAL APPEAL.—The governors last week decided that until economic conditions improve it would be advisable to reduce to a minimum the activities and expenditure in connexion with the appeal for a million pounds for reconstruction. It was also decided to appoint a committee of not more than five persons with special financial experience to advise upon financial questions as occasion may arise.

ESTIMATION OF THE BASAL METABOLIC RATE

FROM FORMULÆ BASED ON PULSE-RATE AND PULSE PRESSURE.

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IN 1922 J. Marion Read [1] of San Francisco suggested that a simple clinical means of estimating basal metabolic rate might be obtained by making use of the correlation between basal metabolic rate, pulse-rate, and pulse pressure. He suggested the following formula :—

$$\text{B.M.R.} = 0{\cdot}683\ (\text{P.R.} + 0{\cdot}9\ \text{P.P.}) - 71{\cdot}5,$$

but subsequently [2] altered the formula to :—

$$\text{B.M.R.} = 0{\cdot}75\ (\text{P.R.} + 0{\cdot}74\ \text{P.P.}) - 72.$$

In 1926 Cameron, Kitchen, and McRae, of Canada, tested Read's formula during an investigation into the basal metabolic rate of young adults, and concluded "that the results do not justify the use of the formula clinically." [3]

The determination of the basal metabolic rate is of the utmost importance clinically, but it is so involved that it can only be estimated in hospitals provided with a large scientific staff and the necessary apparatus, and it is out of the question for the general practitioner. It was thought that if a formula based on pulse-rate and pulse pressure could be evolved and could be shown to give reliable results, it would bring into the hands of the general practitioner a new method of studying disease at the bedside. With this end in view a letter was sent to Dr. Read which met with a most gratifying response. He forwarded all his original figures and permission to make full use of them. This most kind and generous action made the following inquiry possible. Prof. Cameron, of Manitoba University, was also kind enough to supply the unpublished figures of his test of Read's formula. The Russell Sage Institute of Pathology, New York, very kindly supplied a full set of their papers dating back to 1915. The basal metabolic-rate determinations taken in the Russell Sage Institute are conducted in the most scientific and accurate manner, and it is most unfortunate that their results could not be used, as observations of the pulse pressures are not included.

In Prof. Cameron's 134 cases no less than 55·6 per cent. are included in the zone + 10 per cent. to −9·9 per cent. basal metabolic rate and, taking into account that Prof. Cameron's results were fully 10 per cent. or 15 per cent. higher than Dr. Read's, we decided to deal with Dr. Read's cases only. To facilitate the search for a formula showing the relationship between the basal metabolic rate, pulse-rate, and pulse pressure, Table I. has been compiled from 1006 observations by Dr. Read; this differs slightly from the table given in his pamphlet.[4] From the values given in Table I. the various tables and charts in this paper have been constructed.

In Fig. 1, the mean basal metabolic rate for cases in the zone + 10 per cent. to + 0·1 per cent. is taken as + 5 per cent. and in the zone + 20 per cent. to + 10·1 per cent. as + 15 per cent. and so on. In zones in which only single cases occur the observed basal metabolic rate is taken. Now if the basal metabolic rate values are taken as ordinates, and the results of a formula as abscissæ, and in a straight line formula, these will increase simultaneously by equal amounts if suitable scales be chosen—it follows that the ideal straight line formula will coincide with the dotted line A.A drawn at an angle of 45° (Fig. 1). The results of Dr. Read's formula have been plotted on the chart (Fig. 1) and it is seen that it is too flat; the results in the upper zones are too low, and in the lower zones not low enough. On the same chart are shown the curves for pulse-rate and pulse pressures and also for the sum of pulse-rate and pulse pressure. If a dotted line B.B is drawn through the curve P.R. + P.P. parallel to the dotted line A.A the close approximation is at once seen. This dotted line B.B is 111 on the scale to the left of the chart above the dotted line A.A. The formula P.R. + P.P. − 111 = basal metabolic rate is thus indicated, and further investigation proves it satisfactory. The formula is plotted on the chart and may be compared with that of Dr. Read. The formula and results are also shown in Table II.

TABLE I.

Observed B.M.R. per cent.	Mean values. P.R.	P.P.	P.R. + P.P.	P.R. × P.P.	P.R. + 0·74 P.P.	Cases.
+132	164	80	224	13,120	223·2	1
+124	159	74	233	11,766	213·8	1
+112	132	110	242	14,520	213·4	1
+103	121	84	205	10,164	183·2	1
+100 to +90·1	116	74·5	190·5	8,642	171	2
+ 90 to +80·1	117	63	180	7,371	163·6	2
+ 80 to +70·1	109·8	78·1	187·9	8,575	167·8	13
+ 70 to +60·1	104·3	68·5	172·8	7,145	155·1	29
+ 60 to +50·1	103	61	164	6,283	148·2	16
+ 50 to +40·1	99·7	58·2	157·9	5,803	142·7	73
+ 40 to +30·1	94·8	53·3	148·1	5,053	134·3	108
+ 30 to +20·1	85·7	51·3	137	4,396	123·7	123
+ 20 to +10·1	80	45·7	125·7	3,656	113·8	141
+ 10 to + 0·1	72·5	42	114·5	3,045	103·3	166
− 0 to − 9·9	70·2	38·9	109·1	2,731	98·9	137
− 10 to −19·9	66·8	37·4	104·2	2,498	94·3	119
− 20 to −29·9	60·5	32·8	93·3	1,984	85·1	38
− 30 to −39·9	60	28·5	88·5	1,710	81·8	4
−40·4	60	38	98	2,280	88	1
Total cases						1006

TABLE II.—*Summary. Total Mean Percentage.*

Formulæ.	Error not more than— 5 %	10 %	15 %	20 %
1. Gale's formula. P.R. + P.P. − 111 = B.M.R.	27·5	45·6	57·4	73·7
2. 1·06 (P.R. + 0·74 P.P.) − 105 = B.M.R.	21·8	45·1	66·2	73·1
3. Log (P.R. + 0·74 P.P. + 200) − Log 301 / 0·00113 = B.M.R.	26·8	44·6	63·4	70·6
4. Log (P.R. × P.P. + 6000) − Log 8900 / 0·00257 = B.M.R.	24	44·1	55·1	62·6
5. Read's formula. 0·75 (P.R. + 0·74 P.P.) − 72 = B.M.R.	15·3	25·9	36·1	43·6
6. 0·5 (P.R. + 0·74 P.P.) − 38 = B.M.R.	7·1	15·9	23·1	30

The formulæ should not be judged by the number of cases falling within a given percentage of error, but by the percentage of cases falling within a given percentage of error over the whole of the zones. By the first method the results would be dependent on the number of cases occurring in the different

* Mrs. Gale died in November, 1930.

zones; by the latter method the result is independent of the number of cases in the different zones.

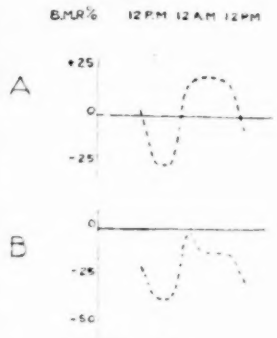
The next question to be considered is the relative influence of pulse-rate and pulse pressure on the metabolic rate. The error in determining pulse-rate is likely to be less than in determining pulse pressure. There is a very marked tendency for these to vary in opposite directions and the variation of pulse-pressure is slightly greater than that of pulse-rate, but the use of a fractional part of the pulse pressure seems scarcely justified until a greater number and more accurate determinations of basal metabolic rates are available. Dr. Read has pointed out [4] "the idea that the pulse pressure varies directly with the stroke volume is not new. Erlanger and Hooker in 1904, after extensive studies, suggested that the velocity of blood flow could be represented by the product of pulse-rate and pulse pressure." The results of the formula

$$\frac{\text{Log (P.R.} \times \text{P.P.} + 6000) - \text{Log } 8900}{0{\cdot}00257} = \text{B.M.R.}$$

are shown in Table II, in which formulæ 1, 2, 5, and 6 are straight line formulæ and formulæ 3 and 4 are curves. It shows the various formulæ compared on a percentage basis calculated from the whole of the 1006 individual cases. The formulæ are placed in their order of merit.

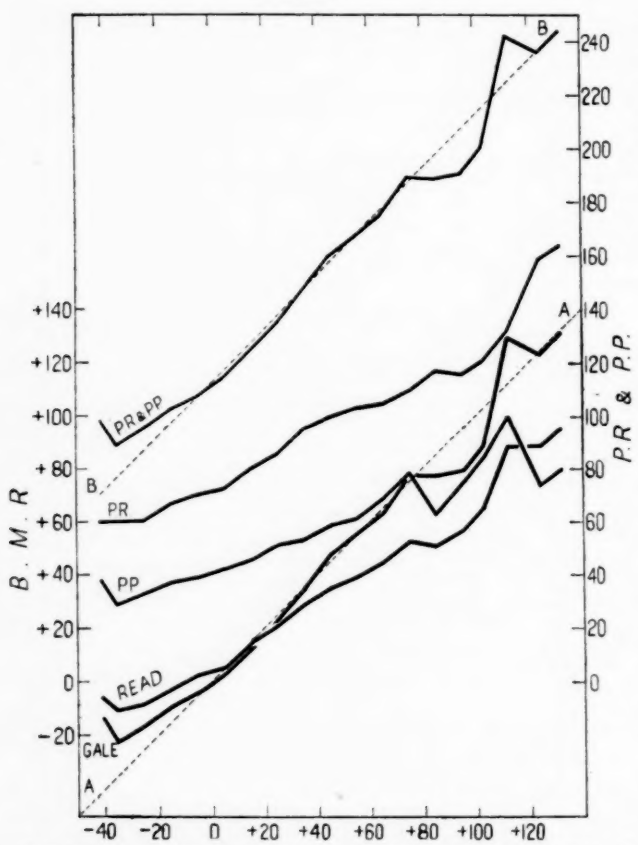
It must be remembered that for the purposes of this investigation the accuracy of the observed basal metabolic rate has been taken for granted, but it appears that the personal equation should be taken into account as, although the observations of Dr. Read and Prof. Cameron were made by a similar method, the portable respiration calorimeter yet, as already pointed out, Cameron's results are fully 10 per cent. or 15 per cent. higher than Dr. Read's. It is much to be regretted that observations suitable for this research are not available from the Russell Sage Institute of Pathology, New York, since admittedly their apparatus gives the most accurate result.

FIG. 2.



The diurnal wave.

FIG. 1



Calculations of basal metabolic rate (B.M.R.) from mean values of pulse-rate (P.R.) and pulse pressure (P.P.) given in the Table. This chart is explained in the text.

SUMMARY.

1. Six formulæ have been calculated and tested on the data of 1006 cases collected by Dr. Read and his staff during the estimation of the basal metabolic rate by the portable respiration calorimeter.

2. Gale's formula P.R. + P.P. − 111 = B.M.R. has been found to give on the whole the most satisfactory results, as seen in Table II., where the total mean percentage of the percentages of all the zones of cases within 5 per cent. error of the observed basal metabolic rate is 27·5 per cent., and of cases within 20 per cent. error, 73·7 per cent. Allowing for the many possibilities of error in the observations of clinical data, this appears to be an excellent result.

3. This method of calculating the basal metabolic rate by the addition of the pulse-rate and the pulse pressure and subtracting 111 make it admirably adapted for use at the bedside by the general practitioner.

THE TWENTY-FOUR HOUR CURVE.

Fig. 2 shows the typical curves of observations made of two subjects at frequent intervals during three years. The curves were fairly constant from day to day. The peak in curve B at about 12 A.M. (noon) was very persistent, but seldom rose above normal. In all cases examined there was a rise from the minimum, at about 4 A.M. to 5 A.M., to the maximum, at about 12 A.M. to 1 P.M., and a tendency to remain steady between 2 P.M. and 8 P.M. For this reason the afternoon appears to be the best time for taking the basal metabolic rate. The curves were obtained by observations taken every two hours by Gale's formula, in some cases without waking the subject. It is doubtful if the curves could be obtained by any other method.

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THE PATHOLOGY AND ÆTIOLOGY OF BRAIN ABSCESS.*

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(*Concluded from p. 1235.*)

(B) Hæmatogenous Spread.

In this section are included cases in which brain abscess had followed the transmission by the blood stream of infected material originating in a distant focus of suppuration. This distant source of infection must be regarded as a frequent and important factor in the ætiology of brain abscess, as it provided the cause in 46, or 23·7 per cent., of the 194 cases. In 22 instances the abscess had formed as a complication of intrathoracic suppuration, and in 24 cases brain abscess had followed extrathoracic suppuration. As the abscess occurring in the latter group of cases differs in many respects from that found in the former, each will be described separately.

METASTATIC BRAIN ABSCESS RESULTING FROM INTRATHORACIC SUPPURATION.

Cerebral abscess established as a complication of chronic intrathoracic suppuration is of considerable interest in that it is usually the sole manifestation of pyæmia. Of the chest conditions which are liable to be complicated by brain abscess bronchiectasis is by far the most important. Empyema may produce a similar result, but much less frequently. The peculiar tendency of this group to form a chronic type of brain abscess, generally solitary and almost invariably the only lesion indicative of a pyæmia, warrants its consideration in a separate subdivision. The abscess is embolic in character. Presumably, micro-organisms or fragments of infected thrombus in a tributary of the pulmonary vein are transported in the blood stream and become lodged in a terminal radicle of the cerebral arteries. Acute localised encephalitis results, and a brain abscess is formed.

(*a*) ***Brain abscess complicating chronic bronchiectasis.*** Brain abscess is a fairly common complication of chronic bronchiectasis. An examination was made of 321 cases in which *chronic* bronchiectasis had been found at necropsy, and brain abscess was discovered in 11, or 3·4 per cent. No brain abscess could be demonstrated at necropsy in 494 cases of *acute* purulent bronchiectasis. It will be seen, therefore, that it is the chronic form of bronchiectasis which possesses the peculiar tendency to give rise to this complication. In the present series there were 17 cases, so that 8·7 per cent. of all abscesses were due to chronic bronchiectasis. This percentage would be considerably raised if the 24 cases of cerebral abscess occurring in general systemic pyæmia were ignored as being clinically unimportant; bronchiectasis would then be found to be the cause of brain abscess with a frequency next in order to that of middle-ear and mastoid infection. Further analysis of the figures shows that when brain abscess complicated intrathoracic suppuration it was secondary to chronic bronchiectasis in 77·3 per cent. of the cases.

The abscesses occurred in 13 males and 4 females. They tended to be more frequent in adult life; six subjects were over 40 years of age, whilst all were between 19 and 51 years. Amongst the 17 cases the abscess was single in 11, or 64·7 per cent., and two or more in number in the remaining 6. They were generally of a large size when solitary, but when multiple they tended to be smaller, varying in size in individual cases from a pinhead to a cherry. The seat of the abscess was usually in the cerebrum, and only very rarely did it form in the cerebellum. The incidence was as follows: centrum semi-ovale 76·2 per cent., temporo-sphenoidal lobe 9·5 per cent., cerebellum 9·5 per cent., pons 4·8 per cent. Thus the centrum semi-ovale, or the white matter in the cerebral hemisphere, proved to be a prevalent and favourite site for this type of abscess. Centrum semi-ovale, per se, is not, however, a sufficiently accurate term to define the position of the abscess; the abscess may in this area be frontal, occipital, or parietal; these three sites are given in order of frequency. The abscess did not form with greater frequency on either side; it was on the right in seven, on the left in seven, and on both sides in three.

In 16 cases the brain abscess proved at necropsy to be the only evidence of a pyæmia, but in one case an embolic abscess in the right kidney and a large septic infarct in the upper pole of the spleen were also present.

The bronchiectasis in two cases had followed infection of the lung by a foreign body in the air passages; in one case it followed pneumonia; in one it followed direct spread of the infection from a subdiaphragmatic abscess; in two it was tuberculous in origin; in 11 the cause was not definitely ascertained. No satisfactory explanation can be advanced to show why a brain abscess so rarely complicates pulmonary tuberculosis with cavity formation and extensive destruction of lung tissue, in comparison with its relatively frequent occurrence as a complication of chronic bronchiectasis resulting from any other cause. But the fact that two cases fall in this series should emphasise that brain abscess is not an extremely rare complication of bronchiectasis following pulmonary tuberculosis.

The formation of a brain abscess was not determined by the extent of the bronchiectasis in the lungs. The tendency appeared to be only slightly greater in extensive lesions where large and prominent fusiform and saccular bronchiectatic cavities were present than in the less pronounced examples of bronchiolectasis, where the condition was none too obvious when viewed with the naked eye, but was conclusively proved to be present by microscopical examination. This has been conspicuous in the present investigation which disclosed the lesion in the lung to be slight in 7 of the 17 cases; in 4 cases bronchiolectasis had provided the cause, and it cannot be too greatly emphasised that, where a brain abscess has been found at necropsy and no apparent primary cause is immediately discovered, a diligent search should be made in the lungs for possible focal or diffuse areas of chronic bronchiolectasis.

It is significant that with only two exceptions the bronchiectasis in all cases involved the lower parts of the lungs, was invariably confined to the lower lobes, and was usually unilateral. In the two exceptions the bronchiectasis was confined to the apex of the lung, and in both the bronchiectasis was tuberculous.

No advantageous conclusion can be drawn from a study of the relationship between the bacteriology of bronchiectasis and the resulting brain abscess. More than one variety of organism was generally present, and a culture of the abscess content invariably grew similar colonies to those cultivated from the bronchiectatic cavity which provided the initial

* Based on a paper awarded the K. E. D. Payne Prize at the London Hospital in 1927.

source of the infection. In one case a mould was found in the lesion in both brain and lung.

Brain abscess as a complication of chronic bronchiectasis was found to assume a rapid clinical course and invariably proved fatal in two to three weeks after the onset of symptoms which indicated its existence. Of the 17 subjects, 14 died within three weeks of the initial symptoms, nine dying within 14 days. Pyocephalus was a frequent terminal event and was generally produced by the extension of the process of suppuration towards, and finally into, one of the ventricles of the brain.

(*b*) *Brain abscess complicating empyema.*—Empyema was the primary lesion in five, or 22·7 per cent., of the 22 cases in which brain abscess complicated intrathoracic suppuration. In a series of 475 consecutive necropsies upon cases of empyema brain abscess was found in only three, or 0·6 per cent. Rib resection had been practised in all five cases. In two, bronchiectasis was also present, but the empyema was the outstanding, and apparently the initial, lesion. The empyema had followed pneumonia in all five cases. The brain abscess was found to occupy the centrum semi-ovale in all instances.

Brain abscess complicating lung abscess.—Abscess of the lung appears to be a rare cause of brain abscess, for no example of such an association was found in the present series. An examination was made of 228 non-embolic abscesses of the lung and in no instance was brain abscess found at necropsy. Abscess of the lung was associated with empyema in one case, with empyema and bronchiectasis in another, and with bronchiectasis in a third case, but these three cases have been cited under (*a*) and (*b*) because these lesions were considered more likely to be the primary cause of the brain abscess.

METASTATIC BRAIN ABSCESS RESULTING FROM EXTRA-THORACIC SUPPURATION.

The brain abscess in all cases placed in this group had formed in a generalised or systemic pyæmia, but although the latter accounts for 24, or 12·3 per cent., of all cases of brain abscess, clinically it is regarded as the least important of all causes, because the prevailing pyæmia invariably proves fatal, the focal areas of suppuration in the brain and other organs forming as a terminal event.

Brain abscess is not a common lesion in systemic pyæmia; investigation of 576 consecutive examples at necropsy of such pyæmia, complicating osteomyelitis in 113, otitis media in 46, puerperal sepsis in 49, and other lesions in 368, demonstrated brain abscess in only 15, or 2·7 per cent. Septic infarcts in the spleen and kidneys, and pyæmic abscesses in the lungs and small and large intestines were far more constant features.

This type of brain abscess may be single or multiple. In 13 cases more than one abscess was present. In 11 cases the abscess was single. The abscess in two cases had reached large dimensions. In five cases the actual size of the abscess was not recorded. In 17 cases the abscess was small, varying in size from a pinhead to a pea; in many of these cases a diligent search was made at necropsy in order to disclose their presence. The position of the abscess varied greatly; most commonly it was in the centrum semi-ovale or in the cerebral cortex; less commonly it occurred in the cerebellum, pons, the basal ganglia, or in the external and internal capsules. The causes of the pyæmia, the size and site of the brain abscess, and the sites of abscesses forming in other tissues are given in Table V. Reference to this Table will show that osteomyelitis supplied the most common cause of this variety of brain abscess. In one case the site of the initial infection could not be determined at necropsy. With two exceptions the abscesses included in this group produced no symptoms during life which would indicate their presence; they were so small in size, and the symptoms produced by the general toxæmia were so grave, that their effects were completely overshadowed.

Actinomycosis as a cause of brain abscess.—Brain abscess resulting from actinomycosis is a rare occurrence. Investigation of 19 necropsies where death had resulted from actinomycosis showed that in no instance could an abscess of the brain be demonstrated. In 14 of the cases the primary actinomycotic lesion was found to be of abdominal origin, and had generally arisen over the psoas muscle, being pericolic in distribution; in one case it was in the socket of a premolar tooth; in two cases in the chest wall; and in two cases in the lungs. Widespread pyæmia was present in five cases. Miliary actinomycotic tubercles in the leptomeninges were found scattered over the cerebrum at necropsy in one case, but abscess formation was not present.

TABLE V.—*Further Details concerning Brain Abscesses in Cases of General Systemic Pyæmia.*

Initial lesion.	B.A.	Site.	Size.	Sites of accompanying pyæmic abscesses.
Infect. endocarditis.	M.	c.s.o. cereb.	Small.	Heart, spleen, S.I.
Puerperal sepsis.	1	c.s.o.	Minute.	Heart, spleen, kidney, suprarenal body, lung, knee and sternoclav. joints.
Comp. frac. patella.	1	c.s.o.	Miliary.	Heart, lung, suprarenal body, spleen.
Otitis media.	M.	c.s.o.	Pea.	Heart, lung, spleen.
Uterine sepsis.	1	c.s.o.	?	Lung, spleen, liver.
Suppurating ovarian cyst.	1	c.s.o.	?	(Head alone exam. at necropsy.)
Frontal sinusitis.	M.	Temp.-sph. lobe, c.s.o.	Miliary.	Lung, liver.
Appendicitis.	1	c.s.o.	?	Lung, kidney.
Erysipelas.	4	Temp.-sph. lobe, pons.	Pea.	Heart, spleen, thyroid.
Osteomy. of ilium.	M.	c.s.o., cereb.	?	Lung, spleen.
Perf. duodenal ulcer.	M.	Cereb. roof of lat. vent.	Small.	Lung, kidney.
Cellulitis of eyelid.	1	Temp. lobe.	?	Lung, kidney, muscle, S.I.
,,	2	Temp.-sph. cereb.	1·5 cm. diam.	Lung.
Abscess of breast.	1	c.s.o.	1·3 × 5 cm.	Lung, spleen, kidney, S. and L.I.
Osteomy. of fibula.	M.	Cerebral cortex.	Miliary.	Lung, kidney, S. and L.I.
Pinprick wound.	M.	Cerebral cortex, pons, c.s.o.	Small.	Heart, lung, spleen, kidney.
,,	1	Cereb.	0·6 cm.d.	Lung.
Osteomy. of tibia.	1	Ext. capsule.	Miliary.	Heart, lung, kidney, thyroid, S.I.
,,	M.	Cerebral cortex.	1 cm. diam.	Heart, spleen, liver, S.I.
Osteomy. of femur.	1	Ext. capsule.	Miliary.	Heart, spleen, kidney, liver, thyroid.
Infec. endocarditis.	M.	Cerebral cortex. c.s.o., cereb.	Pinhead.	Heart, spleen, kidney, liver, thyroid, S. and L.I., skin.
Unknown.	M.	c.s.o.	Miliary.	Heart, spleen, kidney, S.I., skin.
Osteo-arthritis.*	1	c.s.o. (parietal).	9 cm. diam.	Thyroid.
Nasal septum.†	M.	Cerebral cortex.	Pinhead.	Spleen, S. and L.I.

* Purulent osteo-arthritis of hip-joint.
† Resection of nasal septum with purulent rhinitis.
B.A. = number of brain abscesses; c.s.o. = Centrum semi-ovale; M. = multiple; Cereb. = cerebellum; L. and S.I. = large and small intestine.

Secondary infection of a neoplasm.—Such a source in the ætiology of brain abscess must be exceedingly rare. The reports of 115 necropsies in which neoplasm of the brain was present demonstrated that in no instance had suppuration occurred in the brain and

caused an abscess. Of these neoplasms 82 were gliomata, 15 secondary carcinomata, 10 secondary sarcomata, and eight angeiomata. In one case a green hæmorrhagic and necrotic deposit of carcinoma in the centrum semi-ovale of the brain was secondary to a growth in the suprarenal body. On microscopical examination the growth in the brain was found to be infiltrated with leucocytes but abscess formation had not resulted.

Secondary infection of a tuberculoma.—It appears from the present investigation that suppuration occurring in a tuberculoma is rare. No such example was found in the series of 14,534 necropsies examined. The supposed frequency appears to depend upon neglect of microscopic examination. Thus the softening of caseous material in a tuberculoma may give to the naked eye an appearance closely simulating a focus of suppuration. Further it may be found at necropsy that a focus of suppuration in the cerebellum, where a tuberculoma is most commonly found, is associated with generally or partially disseminated tuberculosis. Where middle-ear and mastoid disease is excluded it is not unreasonable to conclude from the naked eye examination alone that the suppuration has occurred in a pre-existing tuberculoma. The second source of fallacy is illustrated by one case in this series.

During life a male, aged 32 years, had suffered from pulmonary tuberculosis: necropsy showed cavitation in the apex of the left lung with slight purulent bronchiectasis and nodules of broncho-pneumonic consolidation. Miliary granulomatous tubercles were scattered over the under surface of the diaphragm and throughout the spleen and kidneys. A solitary abscess was discovered in the left lobe of the cerebellum, and the middle ears and mastoid antra were found to be clean and free from infection. A somewhat natural deduction was made at necropsy that the abscess had formed as the result of suppuration occurring in a tuberculoma. Histological examination of its wall, however, proved conclusively that it was a simple abscess, and it showed no evidence of tuberculosis. It had evidently occurred as a complication of the bronchiectasis.

(C) Method of Spread Doubtful.

In two cases, although the source of the infection was evident, the path to the brain remained obscure. In one case a large abscess had formed in the left frontal lobe in a child aged 6 years. A small subperiosteal abscess was also present in the left coronal suture, but appeared to be unconnected with small abscesses situated under the adjacent dura. Muco-pus in the left antrum of Highmore seemed to have provided the source of infection, but its path to the brain was not evident. In the other case an abscess (5·5 cm. diam.) was found in the right frontal centrum semi-ovale in a man aged 47 years. Pus was found in both antra of Highmore, and in the frontal and sphenoidal sinuses. There was no thrombosis of the cranial venous sinuses. Examination of cultures prepared from the brain abscess and from the antrum disclosed a pure growth of streptococci of remarkable length and arranged in chains. This finding would appear to establish the accessory nasal sinuses as the source of infection, but in this case also the method by which the infection spread to the brain was not obvious.

(D) Source, and therefore Method of Spread, Doubtful or Unknown.

In three cases a source was not found at necropsy, but the history suggests that the abscesses were pyæmic. In one case, a young adult aged 17, an abscess was found in the left side of the pons. There was a history of pneumococcal arthritis of both hips following an attack of pneumonia two years before death. Necropsy showed a healed arthritis of the left hip-joint and deep scars about the hip. A man, aged 32 years, with a streptococcal abscess in the left parietal centrum semi-ovale had suffered from severe quinsy five months before. In a man, aged 46 years, with an abscess in the left frontal centrum semi-ovale there was a history of carbuncles 14 months before.

In two cases there was a history suggesting infection of the ear, but the middle ears and mastoid antra were found to be healthy at necropsy. In a boy, aged 14 years, there was an abscess in the left lobe of the cerebellum, and a doubtful history of discharge from the ear was obtained. In another boy, aged 19 years, there was an abscess in the left temporo-sphenoidal lobe; there had been earache four months before death, and wax had been removed from the left ear. In neither of these cases was the nose and its accessory sinuses examined at necropsy. In the second case the necropsy was confined to the head.

In ten cases no source of infection was found at necropsy and there was no history of a possible source. In one case, where an abscess was found in the right frontal lobe, the necropsy was confined to the head and the nasal accessory sinuses were not examined. In nine there was a full necropsy, but in two, examination of the accessory nasal sinuses had been omitted. The sites of the abscesses have been indicated in Table VI.

TABLE VI.—*Further Details in 17 Cases where the Method of Spread and Source of the Infection were Doubtful or Unknown.*

Sex and age.	Site of brain abscess.	Size or diameter (cm.).	Nature of possible source of infection.	Condition of foramen ovale.
M. 47	Rt. fr. c.s.o.	5·5	Purulent accessory nasal sinuses.	P. p.
F. 6	Lt. fr. c.s.o.	Large.	Muco-pus in antrum of Highmore.	Closed.
M. 17	Pons.	3·5 × 2	Pneumonia followed by pneumoc. arth.	,,
M. 32	Lt. pari. c.s.o.	3·5	Severe quinsy 5 months before.	P. pr.
M. 46	Lt. fr. c.s.o.	5	Carbuncles 14 months before.	,,
M. 14	Cereb.	4·5	Doubtful history of aural discharge.	Closed.
M. 19	Lt. temp.-sph.	4	Earache 4 months previously.	Head alone examined.
M. 48	,,	Large.	—	P. pr.
M. 45	Rt. occip. c.s.o.	4 × 3 × 5	—	,,
F. 7/12	Rt. pari. c.s.o.	3 × 2	—	,,
F. 1¼	Rt. fr. c.s.o.	6 × 5 × 5	—	Closed.
M. 50	Rt. occip. c.s.o.	6	—	P. p.
F. 14	Lt. fr. c.s.o.	4	—	Closed.
F. 17	Rt. occip. c.s.o.	2	—	P. pr.*
M. 17	Rt. fr. c.s.o.	7	—	Head alone examined.
F. 22	Lt. fr. c.s.o.	6	—	Closed.
M. 41	Lt. pari. c.s.o.	6·5 × 4 × 3.	—	P. p.

* Also patent interventricular septum.
Pari. = parietal; P. p. = patent to pencil; P. pr. = patent to probe.

PYOCEPHALUS COMPLICATING BRAIN ABSCESS.

Pyocephalus was found associated with brain abscess at necropsy in 40 per cent. of the cases; *it* is to be regarded, therefore, as a frequent complication. It appeared to have been established in one of two ways:—

(1) The abscess had extended and ultimately had ruptured into one of the ventricles of the brain, invariably into the lateral ventricle on the corresponding side. This extension of the infection, as

already mentioned, was marked in its early stages by the presence of a finger-like area of encephalitis projecting from the abscess towards the ventricle; in the later stages this area became a diverticulum of the main abscess; eventually this reached the ependyma of the ventricle, and ruptured into the ventricle. The rupture was marked clinically by the sudden introduction of grave symptoms.

(2) The other method by which the infection had spread into the ventricles setting up gross pyocephalus occurred with equal frequency, being found in 50 per cent. of the cases which demonstrated this complication at necropsy. Here the initial step in the process appeared to be the occurrence of leptomeningitis; the infection presumably had reached the ventricles from the subarachnoid space via the foramina in the roof of the fourth ventricle. Clinically this was not identified with the occurrence of catastrophic symptoms as was the case in the previous mode of spread, the process being a gradual one.

THE ASSOCIATION OF MENINGITIS WITH BRAIN ABSCESS.

The association of leptomeningitis with brain abscess was found to be a common one. In its distribution it was either generalised, or localised to a small area over the site of the abscess. In one form or another it was found to be present in 67 per cent. of the cases of brain abscess discussed in this paper. In 70 per cent. of these the purulent leptomeningitis was general; in the remainder it was localised to the surface of the abscess.

OTHER CONDITIONS ASSOCIATED WITH BRAIN ABSCESS.

The relationship between thrombosis of the cerebral sinuses and brain abscess has already been considered. Septicæmia as indicated by hyperplasia of the pulp of the spleen with or without engorgement was present in 30 per cent. of all cases where a full necropsy was conducted. Parenchymatous degeneration of the liver, kidneys, and myocardium was also present in varying degree of severity. Internal and external hydrocephalus with flattening of the cerebral convolutions were commonly observed, and post-operative hernia cerebri was sometimes present.

I am greatly indebted to Prof. Hubert M. Turnbull for his permission to use the records of the Bernhard Baron Institute of Pathology, and for his valuable criticism and help.

ETHER AS A CAUSE OF DEATH AFTER PROSTATE OPERATIONS.

By R. J. Minnitt, M.D. Liverp.,

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I have long felt that the mortality-rate in prostate operations is far too high. For many years I have noticed that patients for whom the prognosis seemed favourable have died from uræmic conditions some five or six days after operation, although the pre-operative blood-urea has been within what are called normal limits.

Statistical evidence is ample to demonstrate these facts. In a hospital report for two separate years the death-rate is shown to be over 50 per cent. in two-stage prostatectomies, and almost 50 per cent. in the one-stage. In all operations undertaken for bladder conditions connected with the prostate, the death-rate is over 50 per cent.

It is well known that the effect of an ether anæsthetic on renal function is considerable. As far back as 1899 and 1900 R. C. Kemp and W. H. Thompson in America and B. W. Buxton and A. G. Levy, in this country, were putting forward theories to account for the albuminuria after ether anæsthesia. In 1927 Haines and Milliken [1] examined between 60 and 70 cases, and showed that when ether was administered albumin was present in the post-operative urine. It appears, therefore, that ether produces transient renal damage, probably slight cloudy swelling. Florence Stephen [2] has similarly reported albuminuria in all of a series of cases examined after ether anæsthesia, and has suggested that the anæsthetic causes changes in the renal cells.

In the accompanying Table I give urea estimations before and after anæsthesia, and 24 hours and 48 hours later. It should be noted that no change takes place in the urea during the time of anæsthesia, but the Table suggests two things: (1) the higher the urea content of the patient, the greater the rise in the day or two following the operation; (2) there was no change in the blood-urea on the days following administration of gas and oxygen (one case).

Comparison of Urea Estimation in Relation to Anæsthesia.

Operation.	Method.	Amount of ether used.	Time of anæsthesia.	Urea mg. per 100 c.cm.		
				Before and after.	24 hours after.	48 hours after.
		oz.	mins.			
Gastro-ent.	Open ether.	20	60	38–38	N.	44
,,	,, ,,	16	45	N.–41	45	61
Gastro-ent.*	Gas/oxy/ether endotracheal.	3½	60	49–49	78	72
Appendicec.	Open ether.	7	35	33–N.	35	28
and cæcopexy						
Goitre removal.	Gas/oxy/ether endotracheal.	2	55	20–20	N.	23
Appendicec.	Gas/oxy/ether face mask.	1	20	N.–26	33	30
,,	,,	4	45	18–20	21	24
,,	Gas and oxy.	Nil.	25	33–35	35	35
Radium insertion.	,,	,,	20	N.–20	35	30
Appendicec.	Gas/oxy/ether face mask.	2	25	25–25	34	38

* This case was found to have hyaline casts in the urine, and a blood-urea of 62 mg. per 100 c.cm. ten days after operation. Probably a patient with some pre-operative renal damage.
N.= No estimation. Gastro-ent. =gastro-enterostomy. Appendicec.= appendicectomy.

As an illustration of what happens in prostate cases I mention a patient who had a one-stage prostatectomy under gas and oxygen anæsthesia, with the addition of 3 oz. of ether, the time taken being three-quarters of an hour. The blood-urea before operation was 38 mg. per 100 c.cm., and it was estimated daily for four days, and then two days later. The following are the figures:—

41 mg. per 100 c.cm.	first	day after operation.		
96 mg.	,,	,,	second	,, ,,
138 mg.	,,	,,	third	,, ,,
127 mg.	,,	,,	fourth	,, ,,
96 mg. per 100 c.cm.	sixth	,, ,,		

It is quite true that this patient did not suffer clinically from untoward symptoms. He was a strong, healthy man, aged 65 years, but it is manifest that the condition of the blood-urea following the

[1] Haines, W. H., and Milliken, L.: Jour. Urol., 1927, xvii., 147.
[2] Stephen, F.: Brit. Jour. Anæsth., 1929, vi., 109.

operation was important, and under less favourable conditions might have been disastrous. It will be noticed, however, that the blood-urea before operation was within what are looked upon as normal limits.

The conclusions I draw from the foregoing biochemical investigation are as follows: 1. The higher limits of what is called normal blood-urea are abnormal. Cases where it is high will develop a far higher blood-urea after anæsthesia. This applies to all operations. 2. The cause of the increase is the effect of ether on the renal cells. 3. In any case of enlarged prostate, with a blood-urea approaching 40 mg., the operation should be performed in two stages. 4. When there is an abnormal blood-urea and any renal damage, gas and oxygen anæsthesia only should be used.

PROTECTIVE ACTION OF GRANULATION TISSUE AGAINST THE ABSORPTION OF TOXINS.

EXPERIMENTS WITH TETANUS TOXIN AND COBRA VENOM.

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IT has long been known that granulation tissue exerts a protective action against the penetration of pyogenic organisms from its surface into the deeper tissues. Thus Billroth (1865, 1871) demonstrated that in dogs the repeated application to a granulating wound of dressings soaked in putrid pus was without ill-effect either locally or on the animals' general condition; whereas when similar material was injected into the subcutaneous tissue inflammation, fever, or even pyæmia resulted. Later, Afanassieff (1896) came to the conclusion, from his experiments on susceptible animals, that various virulent pathogenic organisms such as *Bacillus anthracis* and *Vibrio metchnikovi* were unable to cause infection when placed on granulating surfaces. Noetzel (1898) confirmed these results with anthrax bacilli in guinea-pigs, rabbits, and sheep; the critical period at which the surface was protected was found to be the fifth or sixth day after the production of the wound. Noetzel failed to find that, as stated by Afanassieff, immunity resulted from such implantation of organisms on granulation tissue. Thus, in the case of a sheep which had repeatedly tolerated the application of anthrax bacilli to a granulating surface, Noetzel excised the wound two days after the last inoculation, and death from anthrax occurred 48 hours after the operation; the freshly exposed tissues had evidently become infected from persisting bacilli or their spores. This protective action of granulation tissue against infection with pathogenic organisms contrasts with the ready absorption of crystalline substances, such as potassium iodide (Demarquay, 1869) or pilocarpine (Hack, 1880), when applied as solutions to surfaces covered with granulation tissue.

TETANUS TOXIN.

In the case of tetanus toxin, however, Noetzel (1898) showed that granulation tissue was apparently an effective barrier, since the usual symptoms failed to develop when toxic fluid cultures were introduced into five- to eight-day wounds in sheep, and the animals remained well. In view of the great importance of this observation the work has been repeated.* Tetanus toxin was used and rats were selected, since, owing to their high susceptibility to this poison, a ready indication could be obtained as to whether or not absorption had occurred. Under ether anæsthesia an incised wound about half an inch long was made in the skin of the gluteal region after the hair had been clipped and the patch cleansed. The muscle-fibres were then separated by inserting the blades of sharp-pointed scissors until a small cavity was made in the muscle; into this cavity a small plug of cotton-wool was inserted, and the skin wound was sealed with collodion. After a varying period in different animals the wound was reopened and the cotton-wool plug removed, the greatest care being taken to avoid causing any bleeding. A platinum loopful of the dry powdered toxin was then placed in the wound cavity, a fresh plug of cotton-wool inserted, and the wound sealed as before with collodion. It was found that, by making the platinum loop sufficiently small, the quantity of powder lifted was fairly constant, and by actual weighing represented about 20 times the minimum lethal dose for the size of rat used. While the usual aseptic precautions were observed, the attainment of complete asepsis in the wounds was not attempted.

TABLE I.

Days (a).—Interval in days between infliction of wound and introduction of toxin.

No. of animal.	Days (a).	Result.	No. of animal.	Days (a).	Result.
1	0	General tetanus.*	14	5	Delayed local spasms: died on 16th day.
2	0				
3	0				
4	0				
5	0				
6	0		15	5	Well.
7	0		16	5	"
8	4	Local spasms.	17	5	"
			18	5	"
9	4	Local spasms—died.	19	5	"
			20	5	Well.†
10	4	Local spasms.	21	6	Well.
11	4	Well.	22	7	"
12	4	"	23	7	"
13	5	Delayed local spasms: died on 8th day.	24	9	"
			25	9	"
			26	9	"

* Indicates killed with an overdose of chloroform.
† Wound reopened five days after inoculation, with abrasion of granulations and bleeding: local spasms.*

Note.—All those animals recorded as "well" were observed over a period of several weeks, with the exception of rat No. 20.

The table shows in detail the results obtained, and these may be summarised as follows:—

(*a*) Seven rats were inoculated with the toxin immediately after the infliction of the wound, and all developed acute general tetanus within 36 to 48 hours, and were killed with chloroform.

(*b*) Five rats were inoculated with the toxin four days after the infliction of the wound, and of these two remained completely well and three developed local spasms in the wounded leg and were killed.

(*c*) Eight rats were inoculated with the toxin five days after the infliction of the wound, and of these six remained well and two developed local spasms in the wounded leg five and six days after inoculation, and died on the eighth and sixteenth days after inoculation respectively.

(*d*) Six rats were inoculated with the toxin six to nine days after infliction of the wound, and all remained well.

Briefly, of 12 rats inoculated before the fifth day only two failed to develop tetanus; while of 14 rats inoculated on or after the fifth day 12 remained well, and the remaining two developed local tetanus only.

From a study of these results it appears that

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* I am indebted to Dr. R. A. O'Brien, of the Wellcome Physiological Research Laboratories, for a supply of tetanus toxin in solid form, obtained by precipitating the fluid toxin with ammonium sulphate.

when the interval between the infliction of the wound and the insertion of the toxin exceeded five days the animals were protected from the action of the toxin. When the interval was four or five days a proportion of the animals (8 out of 13) remained well, while the remainder (5 out of 13) developed spasms localised to the wounded leg, and seemed otherwise healthy

The appearance of spasms localised to the neighbourhood of a wound has been interpreted clinically as evidence of either a relatively slight infection or the presence of a certain degree of immunity, as in cases treated with antitetanic serum. It seems reasonable to conclude that in a healing wound some process has taken place which, after the fifth day, affords protection from the action of the toxin. On or about the fifth day the process is apparently incomplete in that a partial protection only is afforded. As regards the nature of the protection, Pettersson (1911) has shown that, of the cells commonly present in young granulation tissue, the leucocytes, macrophages, and lymphocytes of guinea-pigs, rabbits, and fowls possess little or no power of fixing tetanus toxin. In this connexion the result of a further experiment on rat No. 20 is important. This rat was inoculated with the toxin on the fifth day without apparent ill-effect, but five days after the inoculation the wound was reopened and a fresh plug of wool inserted. In the process some bleeding occurred from the granulations, and within 48 hours the animal developed local spasms in the wounded leg. Obviously sufficient toxin was still present in the wound cavity to cause symptoms of tetanus when the conditions were suitable for its absorption. The evidence, therefore, does not appear to support the view that there is any marked degree of fixation or destruction of the toxin locally by the granulation tissue; it would rather appear that the toxin persists in situ without undergoing absorption. Since various crystalloids are readily absorbed from granulating surfaces, the tetanus toxin may fail to be absorbed into the deeper tissues and the circulation on account of its physical characters as a colloid which is quite inert locally. The protective action would seem to be accounted for by this non-absorption, together with the failure of access by the toxin to lymphatics or nerve-fibres, which are absent from granulation tissue.

COBRA VENOM.

A similar series of experiments was also carried out with cobra venom which, like tetanus toxin, produces poisonous effects chiefly in virtue of containing a neurotoxin. The venom was in the form of fine particles, and the administration of a constant dose was not feasible. The average quantity employed, however, was much in excess of the minimum lethal dose. Twenty-five rats in all were employed, and 20 died within 24 hours of inoculation, the interval between the infliction of the wound and the inoculation varying from five to ten days. Five rats remained well, the interval in their case being six or seven days. The wounds of those rats that died showed no characteristic changes compared with the wounds of those that survived. In the case of the cobra venom, therefore, the protective action of granulation tissue has not been established.

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CLINICAL AND LABORATORY NOTES

ALARMING RECTAL HÆMORRHAGE IN UNSUSPECTED TYPHOID.

BY HAMILTON BAILEY, F.R.C.S. ENG.,
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A PATIENT is seized with abdominal pain accompanied by considerable if not alarming bright red rectal hæmorrhage—thrice in my experience this syndrome has proved the only manifestation of typhoid. It is to these cases and to diagnostic problems arising therefrom that I wish to draw attention.

CASE 1.—A previously healthy woman of 38 complained of sudden abdominal pain and nausea 48 hours before admission. Early in this attack she passed a motion containing much bright red blood. Dull pain continued up to the time she entered hospital, when another stool consisting entirely of blood, mostly bright red but containing some clot, was evacuated. I was asked to see her regarding the possibility of the symptoms being due to an intussusception. On examination she appeared pale, the temperature was normal, and the pulse-rate 98. The only physical sign on abdominal examination was deep tenderness in the right iliac fossa. On passing a finger into the rectum I noticed that it felt hot. Remembering occasions on which this sign had proved of value in the diagnosis of obscure cases of typhoid, a specimen of blood was sent for Widal's reaction. It was returned "strongly positive." With appropriate medical treatment the patient recovered.

CASE 2.—Late one night I was summoned urgently to see a boy of 14 who was stated to be bleeding per rectum "like a tap." His history was that he had had abdominal pain for ten days. For the past 24 hours the stools had been frequent, and latterly had consisted entirely of bright red blood. The pulse-rate was 100 and the temperature normal, and he complained of pain in the region of the descending colon. The abdomen was somewhat distended, but on palpation there were no other physical signs. The rectum was full of red blood, and a considerable number of dark clots were passed after the rectal examination. No rash could be seen and the tourniquet test for purpura was negative. The notes state: "? typhoid, ? intussusception." Widal's reaction was requested. On the following morning I learned that he had had a good night and was somewhat better. The Widal reaction was returned as "negative T.A.B." At 3 P.M. I was again called. The pulse-rate had now risen to 120 and rectal hæmorrhage had recommenced. The nurse stated he had passed nearly 1¼ pints of pure blood during the past four hours. He was blanched and obviously in imminent danger from loss of blood. As soon as possible I transfused the patient with a pint of blood from his father, whose blood was compatible. Improvement was striking and immediate. He passed a good night, but early the following morning complained of considerable spasmodic lower abdominal pain. Some blood-clot was passed per rectum, but apparently there was no fresh hæmorrhage. As the abdomen was still distended I felt that laparotomy should no longer be delayed. Under spinal anæsthesia lower laparotomy was performed. No pathological condition was found, but the large intestine appeared heavy and dark with blood. The abdomen was closed and he was returned to bed. For five days he continued to improve. No fresh bleeding had occurred since the transfusion, and on the sixth day he passed a normal stool. On the eighth day his temperature, which had previously been normal or subnormal, began to rise, and he looked toxic. On the tenth day diarrhœa began and the temperature rose to 101°. The Widal reaction was repeated, and was returned: "typhosus 1—640, positive +++; para 'A'—negative; para 'B'—positive 1—20." He passed into a delirious state and

died on the thirteenth day from the time of the first observation.

CASE 3.—A clerk, aged 30, was sent to hospital as a case of intestinal obstruction. He stated that five days previously he had been seized with acute abdominal pain and soon afterwards had passed half a pint of bright red blood. On the following day he had vomited twice and again passed blood. The pain and the bleeding had continued and the stools had been largely composed of blood. The patient did not look ill. His temperature was 99·6° and his pulse-rate 98. On examining the abdomen it was at once evident that there was considerable distension. The rectum was empty and the examining finger showed a little blood. An enema was given and was returned blood-stained without any fæces. I passed a sigmoidoscope and saw some blood and blood-clot in the sigmoid, but otherwise the examination was negative. He was returned to bed and instructions were given to measure the girth of the abdomen every three hours, and also to report immediately any untoward symptoms. By the following morning the tape measure showed that the abdomen had enlarged more than one inch, and he complained of severe spasmodic central abdominal pain. An enema produced the same result as before. A diagnosis of intussusception probably due to an inverted Meckel's diverticulum was made. On opening the abdomen, by a curious coincidence, the first thing which presented was a Meckel's diverticulum over two feet in length. From its apex there was a cord running to the umbilicus. The cord and the diverticulum were excised, but as they were obviously not causing obstruction further examination was made. The cæcum and colon were systematically examined. On coming to the splenic flexure a change was seen and the whole of the large gut from this point onwards was thickened, blood-red, and hot. The abdomen was closed, and blood taken for a Widal. The report was "Widal's reaction strongly positive." As the patient had never received any typhoid inoculations there was now no doubt that the symptoms were due to typhoid. Recovery followed.

DIAGNOSTIC PROBLEMS.

In a case of more or less sudden abdominal pain accompanied by considerable rectal hæmorrhage the following possibilities are to be considered. It is assumed that a rectal growth will be eliminated by the clinical examination.

1. *Typhoid fever.*

2. *Intussusception.*—The amount of blood passed in cases of intussusception in adult life may be considerable, and differential diagnosis becomes really difficult. If the stool is closely examined, mucus will surely be discovered. In five out of six examples of proved intussusception occurring in adolescent or adult life [1] which I have treated, a lump has been easily felt in the abdomen at the clinical examination. In the sixth case a lump could not be felt, but sigmoidoscopy was rewarded by a unique view of the apex of an intussusception with a carcinoma upon it.

3. *Purpura with abdominal symptoms.*—The presence of purpuric spots may be noted. In doubtful cases the tourniquet test should be applied. I have discussed elsewhere the problem of purpura as an acute abdominal emergency.[2]

4. *A bleeding duodenal ulcer.*—It is possible for hæmorrhage to be the first intimation of duodenal ulceration. In this instance blood passed per rectum is unquestionably dark—so dark, in fact, that it is usually described as "tarry." On this account a bleeding duodenal ulcer hardly ever enters the clinical picture, but in the problem before us it is necessary to exclude it.

I have presented this subject as I have seen it. No doubt workers in other fields are confronted with abdominal pain associated with violent rectal hæmorrhage from other causes. For instance, it seems probable that bilharzia might produce this syndrome.

[1] Bailey, Hamilton: Birm. Med. Rev., 1928, iii., 287.
[2] Bailey: Brit. Jour. Surg., 1930, xviii., 234.

AVERTIN NARCOSIS IN UNUSUAL CIRCUMSTANCES.

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THE following case is of interest from two points of view: (1) it illustrates circumstances in which avertin narcosis may be the only practical means of making the performance of an emergency operation possible; (2) it suggests that avertin may be a useful method of treatment in one of the conditions which was present—namely, delirium tremens.

A man, aged 59, had been suffering for some time from an inoperable carcinoma of the larynx. Tracheotomy had been advised, but had been refused by the patient's wife until it should become necessary. On April 4th respiratory obstruction came on rapidly, and by the evening the need for tracheotomy was urgent. Unfortunately, on this very day the patient developed delirium tremens.

I first saw the patient at 9 P.M.; he was cyanosed, and the cyanosis was increasing. The respiration was markedly stertorous, and all the accessory muscles of respiration were strongly in action. The patient was not violent, but extremely restless, having to be held in bed, and quite inaccessible to reason or argument; this was in spite of morphia gr. 1 which had been given in the preceding six hours.

A dose of avertin equal to 0·1 g. per kg. of body-weight was rapidly run into the rectum, and most of it was retained. In 15 minutes the patient became quiet and lost consciousness, and was transferred to the theatre. When the first incision in the neck was made he was breathing rather more quietly than before, but with less effort; cyanosis was still increasing, and was by now severe. There was no movement when the incision was made, and no anæsthetic was given. Before the tracheotomy was completed, however, respiration ceased, and, in spite of administration of CO_2 and oxygen through the opening in the trachea, did not begin again, and the patient died.

Death was due to suffocation, which the avertin may or may not have accelerated, but at the same time there can be little doubt that a few hours earlier the operation would have been successful. Circumstances, however, made this impossible, and small regret could be felt since the result was euthanasia for a patient whose immediate future would otherwise have been far from comfortable.

The only alternative to avertin in this case would, so far as I can see, have been an attempt to perform the operation under local anæsthesia while holding the patient still by violence. Any kind of inhalation anæsthetic was impracticable, and the intravenous administration of nembutal or one of the barbitones would probably have been impossible.

The prompt and efficient action of avertin upon a patient with delirium tremens, in which most narcotics and hypnotics are so notoriously ineffective, and who had already had morphia gr. 1 without any considerable quietening effect, suggests that where the administration is possible avertin might be the drug of choice to give in troublesome cases of this condition. The effect would presumably last for some hours, and the dose could be repeated without any danger so far as present experience goes.

I am indebted to the kindness of Mr. Eric Steeler for permission to publish this case.

FEWER ROAD ACCIDENTS.—At the annual meeting of the Victoria Hospital, Lewes, it was stated that during the last few months the average number of road accidents treated had fallen from 28 or 30 a month to six or seven. The diminution is attributed to the working of the new Road Act.

MEDICAL SOCIETIES

EDINBURGH OBSTETRICAL SOCIETY.

AT a meeting of this society on May 13th Dr. H. S. DAVIDSON, the President, took the chair, and a paper on

Uterine Prolapse

was read by Miss GERTRUDE HERZFELD and Miss MARGARET TOD, embracing an investigation into 227 cases of prolapse operated on between 1922 and 1929. Of the 227 cases, 132 were traced for periods varying from one to seven years. As regards symptoms, the complaint of "something coming down" was not universal; a woman with cystocele, rectocele, and cervix at the vaginal orifice might have little local discomfort, but reported for discharge or backache. Frequency of micturition was one of the most constant symptoms in all varieties of prolapse and was present before operation in 70 per cent. of the 227 cases, while every case of total prolapse had incontinence. Vaginal discharge was complained of in every case where a lacerated cervix was found, and 30 out of 34 such cases also complained of backache. On the other hand, only 10 out of 39 complete prolapses made this complaint. Complications after operation were associated with sepsis and consisted either of secondary hæmorrhage which occasionally occurred after amputation of the cervix, or, still more rarely, of sloughing of the wound.

Table Analysis of Results of Operation.

Condition found at operation.	Totals.	Cured, no symptoms.	Uterus, &c., in good position, but urinary symptoms present.	Prolapse recurred.	No symptoms. Slight cystocele found on examination.	Post-operative pregnancies.	
						Norm.	Instru.
Cystocele only ..	11	7	3	1	0	0	0
Rectocele only ..	6	4	2	0	0	1	2
Cystocele and rectocele ..	56	47	8	0	1	3	0
Cystocele with hypertrophy of cervix.. ..	7	5	2	0	0	1	1
Cystocele and rectocele with hyper. of cervix	13	12	1	0	0	1	0
Cystocele and rectocele with lac. cervix ..	19	17	2	0	0	2	0
Complete prolapse	20	17	0	1	2	0	0
Total ..	132	109	18	2	3	8	3

The technique of operation evolved by Donald and Fothergill of Manchester was almost always followed in all cases. The accompanying Table shows that 127 out of 132 patients (96 per cent.) were completely cured, though 18 patients had a slight complaint of frequency of micturition. In all these the urine was acid, and in the majority a slight *Bacillus coli* infection was noted. Two cases, done early in the series, showed partial failure with recurrence.

The conclusions reached were as follows: (1) Surgical treatment of uterine prolapse is a safe and satisfactory method of treatment. (2) Abdominal surgery is never required in this condition. (3) The operation results in a feeling of well-being often not experienced by the patients for many years previously. (4) Pessary treatment, while palliative as regards symptoms, should be used only in cases where operation is out of the question, or in very young women.

Heart Disease and Pregnancy.

Dr. A. RAE GILCHRIST read a paper in which he said that four years' experience of cardiac cases in the antenatal department and wards of the Royal Maternity Hospital, Edinburgh, had led to the conclusion that no more accurate method of assessing the ability of these cardiac women to go successfully to term was to be obtained than by grading them according to the functional efficiency of the heart. The type of valvular disease and the ætiology and degree of the cardiac hypertrophy were in themselves of almost no help in prognosis. The actual structural change in the heart mattered little. The all-important factor was the functional efficiency of the heart muscle. This could readily be assessed by noting the response of the patient to her everyday activities. The classification of cardiac disease outlined by the New York Heart Association had proved of great assistance. At the time of the first examination an attempt ought to be made to classify the patient according to one of the following groups:—

Group 1.—Those, who though suffering from organic heart disease, were able to perform their habitual physical activities without any unusual distress, fatigue, or dyspnœa.

Group 2A.—Those who were able to perform their usual activities, but had some slight discomfort in so doing. They had a slight limitation of physical activity, which showed itself by shortness of breath on climbing stairs, on walking uphill, or after performing household duties.

Group 2B.—Those who had a definite limitation of physical activity. They were unable to perform their usual duties without resting at intervals. Several halts were necessary in climbing a flight of stairs. They had given up attempting the more strenuous household duties and at night the ankles might be a little swollen.

Group 3.—Those few whose cardiac reserve was minimal. They were unable to carry on any physical activity without discomfort. They could at the most only walk a few yards and that with difficulty. They had a greater or less degree of congestive heart failure even at rest in bed.

Those in Group 1 gave rise to little or no difficulty. In Group 2A also pregnancy and labour caused but little anxiety, though if the second stage was prolonged the timely use of forceps was indicated. Many patients who came into Group 2B before the sixth month would require Cæsarean section at or about term. Others who developed such a grade of failure in the later months and who responded satisfactorily to treatment would be able to deliver themselves spontaneously and without risk. Women in Group 3 were almost as certain to die if they went into labour spontaneously, or if any obstetrical interference was attempted before circulatory conditions were adequately treated. Heart failure of this degree in the first few months of pregnancy was probably unrelated to the demands of the fœtus. Hysterotomy should be performed as soon as the woman was judged fit enough. In the later months this degree of heart failure could be avoided by adequate antenatal care directed to improving circulatory efficiency. If a case was seen with this degree of failure with labour imminent, energetic medical measures must be instituted at once. It was an axiom that no women should be exposed to the additional strain of active obstetrical interference before every endeavour had been made

to improve the circulation. Left alone they might deliver themselves successfully and often prematurely; interfered with, they were almost certain to die, if not at the time of intervention then in the early days of the puerperium. Happily such cases were not very common.

In 95 cardiac cases carefully followed through pregnancy, labour, and the puerperium, 92 per cent. of the patients survived pregnancy. The percentage of women who delivered themselves successfully at or about term was roughly as follows: Group 1, 85 per cent.; Group 2A, 77 per cent.; Group 2B, 56 per cent.; and Group 3, 18 per cent. There were no Cæsarean operations in Group 1. In Group 2A these amounted to nearly 8 per cent., but in the light of present experience had probably been unnecessary. In Group 2B the Cæsarean sections were 38 per cent. and in Group 3, 55 per cent. Many of the cases were done under spinal anæsthesia with admirable results, but chloroform combined with oxygen seemed safe in skilled hands. Ether was doubly irritating to lungs a trifle congested, and gas, if it caused any cyanosis, embarrassed the heart by anoxæmia. The anæsthetist was more important than the anæsthetic.

ROYAL SOCIETY OF MEDICINE.

SECTION OF LARYNGOLOGY.

AT the summer meeting of this section on June 5th Mr. FRANK ROSE, the President, took the chair, and Dr. A. BROWN KELLY (Glasgow) read a paper by himself and Dr. Leonard Findlay on

Congenital Shortening of the Œsophagus and the Thoracic Stomach resulting therefrom.

In œsophagoscopy of nine cases having congenital stenosis of the œsophagus, no hindrance was encountered at the entrance to the œsophagus, but sometimes the lumen contained a good deal of cloudy fluid, and in almost every case it was much dilated. At a depth which varied in different patients the lumen quickly diminished to a small opening, which was found to be the upper end of the stenosis. In most of the cases examined this region showed rhythmical movements—i.e., it opened with inspiration and closed with expiration. The endoscope could easily be passed through the stenosed part, whose length varied between 0·5 and 2 cm. On emerging from the stenosis, gastric mucosa was encountered. These conditions found at the stenosis were just those present in the diaphragmatic part of a normal œsophagus. The so-called congenital stenosis was really the cardiac canal situated opposite the seventh instead of the ninth or tenth thoracic vertebra. One could apply the terms epicardia and cardia respectively to the regions at the upper and lower end of the stenosis. In several cases, to decide where the œsophageal joined the gastric mucous membrane, a small piece of the lining membrane below the apparent junction was removed, and was found to consist entirely of gastric mucosa. When trying to locate the upper end of the stomach, the œsophagoscope was introduced until it reached the gastric mucosa, a fragment was removed if necessary, and a radiogram was taken with the tube in situ. Having located the cardia and marked it on a tracing of the radiogram the distance was measured to the hiatus, and the result gave the displacement of the cardia, and, presumably, the amount of shortening of the œsophagus. Calculations so made gave results in seven cases which varied from 2 to 6 cm. A few autopsies had shown that a congenitally short œsophagus was occasionally met with.

Dr. LEONARD FINDLAY, speaking on the clinical aspect, said that in all the nine cases vomiting started early, not of spasmodic character, but persisting throughout the meal. When such a symptom was reported, a soft stomach-tube was passed and an obstruction met with. At first he thought the condition might either be ballooning of the lower part of the gullet or dilatation of the œsophagus itself. Radiography was not sufficient to demonstrate it; examination must be made during the act of swallowing, and the patient must be on an inclined plane to encourage delay of the food along the gullet. In the child the position of the junction of the stomach and œsophageal mucous membrane varied considerably—namely, from 4 mm. above the hiatus to 10 mm. below it. It was wrong to think of the œsophagus as a comparatively narrow tube opening into the large sac of the stomach; the two were a continuous whole, and during swallowing the œsophagus widened out and conformed more with the stomach to allow of the passage of food.

Mr. HAROLD BARWELL said it was as yet early to realise the various implications in this new conception. If the intrathoracic cardia was a common condition, he wondered in what way it was connected with congenital stenosis.

Dr. BROWN KELLY said that three years was not a long enough period to enable one to know what happened to these patients at a later period of life. Possibly as the children became older some change took place which enabled the cardia to descend; there was no pathological evidence that the condition was permanent.

Autodilatation of the Œsophagus.

Prof. GEORGES PORTMANN (Bordeaux) read a paper on the Treatment of Cicatricial Stenosis of Œsophagus by Autodilatation. The principle underlying this treatment was that the patient carried out the dilatation without knowing it, the instrument progressing by peristaltic movements of the walls of the œsophagus. Confronted with a case of cicatricial stenosis, Prof. Portmann first did a gastrostomy under local anæsthesia. When the wound had healed, a filiform bougie was pushed in from the top to the bottom of the stricture and, controlled by the œsophagoscope, as far as the stomach. The extremity of the bougie was taken out through the opening of the gastrostomy after the patient had fasted 12 hours. At the mouth of the gastrostomy he introduced a No. 22 Nelaton probe, whose eyes enabled the stomach to be washed out. After 400 c.cm. of boiled water had been put in the stomach the cystoscope was introduced and the postero-internal wall of the stomach was explored from various angles. A thick silk thread was then tied to the end of the bougie and it was withdrawn. To this "endless" thread, passing from the mouth to the gastrostomy opening, dilating olives could be attached, the smallest being devised to enter the stricture first. At first he used bone olives, but found that they became gradually digested by the patient, therefore he was now using ones made of a silver alloy. When the olives had passed the stricture they fell into the stomach, the patient feeling well all the time. When the olives were in the stomach they were withdrawn through the gastrostomy opening. Three to six days were required for the passage of the olives through

the stricture; then they were cleaned or changed, and replaced in the mouth for another journey.

Permanent Tracheostomy.

Sir StClair Thomson read a paper on Permanent Tracheostomy in Stenosis of the Larynx, and showed 8 of 12 patients in whom it had been a success. The stenosis had been due not alone to malignant disease, but also to trauma, bilateral laryngeal paralysis, tuberculosis, lupus, syphilis, and laryngo fissure which was repeated for a recurrence of growth. Sir StClair said his long study of tracheotomy had impressed him with some paradoxes. It was usually done reluctantly; often it was delayed until it was difficult and even useless to do, and sometimes it was imperfectly done. Also the cannula was often taken out too soon. While most cases of stenosis resulted from badly performed tracheotomy, the first step to correct a stricture was often a proper tracheotomy at the right level. Even in recent years he had seen tracheotomy described as a disaster, and bronchitis was commonly held to be a direct result of wearing the tube and inspiring cold air through it. But this was not so, and none of the patients shown had had that experience. The tube orifice could be concealed behind the neckwear, and it only required removal every three months, for inspection and cleaning. With the speaking valve attachment the voice was easily produced, and was often normal; all the patients shown could make themselves heard. One woman, aged 87, had worn a tube for 70 years and never had bronchitis. When catarrh did occur he thought it was due to the irritation of a badly done tracheotomy. The common mistake was to divide the first ring of the trachea, or even the cricoid, so introducing the cannula into the narrower and sensitive subglottic larynx.

Sir James Dundas-Grant had a good word for the Parker tube; it was easy to insert and it was comfortable, but it also came out too easily. He modified it with a quarter-circle tube; it improved the Parker to put a sliding collar on it. In many ways the Durham tube was ideal, but it should be bent at more than a right angle.

Mr. Herbert Tilley described Sir StClair's communication as one of the most valuable ever presented to the section. Those with long experience recognised the pathos of cases where tracheotomy for diphtheria in children was done too high, perhaps even through the cricoid cartilage. The resultant permanent stenosis was difficult to cure.

Mr. Ritchie Rodger spoke of a patient of his who 11 years ago came because he had stenosis from tuberculous laryngitis and perichondritis, and whose condition he regarded as unsatisfactory so long as he continued to wear his tube. The patient saw Sir StClair Thomson and was assured that no ill-effects need follow the permanent wearing of the tube.

Mr. Walter Howarth had been struck by the contentment shown by the patients brought forward. Indeed he wondered whether surgical attempts to correct stenosis were worth while, seeing how comfortable these patients were. A type of case in which surgery was difficult was that in which stenosis followed the falling-in of the cricoid cartilage when tracheotomy had been done too high.

Prof. Portmann said he had found, in many men with stenosis following war wounds, that it was well to do tracheostomy, then clear away the cicatricial tissue, and after the stenotic process had ceased, to do a plastic operation. This was preferable to the patient always wearing a tube.

Mr. E. D. Davis thought a reason why high tracheotomy was sometimes done was that local anæsthesia was used and the patient's head was not put far enough back. With the speaking valve he had found that the amount of mucus coughed up and the soiling of the linen was less than without it.

Radiography of Sinuses.

Dr. Graham Hodgson demonstrated his method of radiographing the sinuses by adopting a sinus stand and clamp and employing a standardised posture for the patient. Interpretation could only be based on an intimate acquaintance with the normal, and with the horizontal fluid level in the sinuses. Used thus, radiology could, he said, be of much service in the diagnosis of sinus involvement. A discussion followed.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

At a meeting of this section on June 9th, with Dr. Hugh Thursfield, the President, in the chair, Prof. A. Calmette (Paris) read a paper on

BCG Immunisation of Infants.

He pointed out that most people were spontaneously vaccinated against tuberculosis by frequent accidental "paucibacillary" contaminations in early youth. To protect man from tuberculosis this sort of immunity, which sensitised against tuberculin but failed to cause progressive lesions, should be obtained artificially. Only living bacilli would immunise effectively, but spontaneously attenuated cultures could not be used, because they tended to recover their virulence as spontaneously as they had lost it. Experience had shown that avian and para-tubercle bacilli could not be used to vaccinate mammals. Prof. Calmette and Mr. C. Guérin had therefore been working for nearly 30 years at the problem of creating a strain of hereditarily and fixedly avirulent tubercle bacilli, comparable with the anthrax vaccines of Pasteur. The strain known as BCG had been obtained by 230 passages on a highly alkaline lipoid-containing culture medium prepared with pure ox bile. This strain had never produced progressive tuberculous lesions which could be inoculated by passage. It was absolutely harmless, but when injected or ingested it produced resistance against severe infection as effectively as did spontaneous infections. The results of inoculating 317 children between 1921 and 1924 had been so encouraging that the Pasteur Institute had decided to put BCG at the disposal of any laboratory or physician desiring to study its effects. Since 1924 research on calves, monkeys, and apes and infant vaccination had been undertaken in many countries and a vast amount of experimental research work had proved the perfect innocuousness of the vaccine and its efficacy in protecting against tuberculosis. The infantile death-rate from tuberculosis—both in tuberculous and in healthy families—sank nearly to zero after vaccination and the general mortality markedly diminished. Vaccinated children resisted all kinds of infantile disease better than the non-vaccinated; this was probably due to non-specific immunity. The Pasteur Institute had collected statistics from the whole country and had found that the general mortality among vaccinated infants was 6 per cent., while among the unvaccinated it was from 16 to 25 per cent. William Park, of New York, had vaccinated 200 infants and found the mortality among them in the first four years of life was 0·9 per cent.; among 400 unvaccinated

infants born and brought up under the same conditions the mortality was 3–4 per cent. There were now more than a million vaccinated children in the world, 336,000 in France. The adoption of B C G in all countries was desirable, and it was a cheap method, since the Pasteur Institute gave the cultures free to all sanitary services. A number of workers were concerning themselves with the problem whether these bacilli could regain their virulence after repeated passage; so far no evidence for this possibility had been observed. Petroff had claimed to isolate two types of bacillus from B C G, one of them being occasionally virulent. His cultures, however, had been shown to be contaminated. A proportion of all children born were certain to meet virulent tubercle bacilli sooner or later; they might as well be given the chance of meeting avirulent bacilli, in a perfectly harmless form, before the dangerous contact occurred. England, Austria, and Portugal were the only countries in Europe not yet applying anti-tuberculosis vaccination; Prof. Calmette hoped that it would not be long before they, too, had joined the crusade.

Dr. ROBERT HUTCHISON proposed a vote of thanks. He said that Prof. Calmette had come as a missionary to this country and had set forth a case for the most serious consideration, at least, of B C G vaccination. The best vote of thanks would be the promise to introduce it in this country.

Sir WELDON DALRYMPLE CHAMPNEYS seconded the vote of thanks, saying that in this country several great names were associated with tuberculosis, but in France tuberculosis was Calmette. In France his name sufficed for a method to be accepted.

SECTION OF COMPARATIVE MEDICINE.

AT the meeting of this section on May 27th Prof. G. H. WOOLDRIDGE, the President, took the chair, and a paper on

Gland-grafting in Veterinary Practice

was read by Mr. G. P. MALE. The first recorded attempt to graft a gland was, he said, that made on a fowl by John Hunter in 1767. Some of the most important recent research in this direction had been carried out by Steinach, chiefly on rats and guinea-pigs, and this worker had succeeded in producing many intermediate changes between male and female. The results of the implantation were chiefly manifest in behaviour; a formerly sluggish and indifferent male animal would, after grafting, become vigorous, combative, and much interested in the opposite sex. Aged females, when engrafted, resumed their breeding, and the senile symptoms receded. The principle had been applied in human beings; portions of testicle from young anthropoid apes, if implanted into the human tunica vaginalis, survived for some time. Steinach produced similar results by ligation or resection of the vas deferens on one side, or later, if necessary, on both sides. The damming-back of the semen caused degeneration of the spermatic tissue and hypertrophy of the interstitial cells, with consequent increase in the output of the hormone. Brown-Séquard claimed that by subcutaneous injection of emulsions of testicular extract he was able to produce in a man aged 72 a marked accession of physical and mental powers; but such treatment must, of course, be frequently repeated.

In Mr. Male's investigations all the domestic animals on which he had operated were suitable subjects for grafting, and the gland graft took. The graft need not be implanted on the testis or ovary in order to get results; it would take effectively anywhere where it was protected from injury and where the nourishing fluids were sufficient. Aged male animals after grafting showed returned youth and vitality, and had their powers of reproduction restored. As an economic proposition, gland-grafting should be valuable to breeders. He had not tried the method in order to hasten maturity in young animals.

One case Mr. Male related was that of a Sealyham bitch, 6 years old, which after several litters failed to breed; there was absence of œstrus. Two complete ovaries were implanted, one on each side, from a year-old whippet bitch, and in a month or two there was a marked alteration in the recipient; she was temperamentally more lively, played with other dogs, and took notice of male dogs. She had a normal "heat" soon after the operation, was mated, and had three strong puppies. Another bitch had been barren two years, but after grafting produced three puppies, and had been in season many times since. To date, only one bitch which had been grafted failed to respond. Among the horses, a thorough-bred mare, 9 years old, had been barren for years although served by different sires. In 1928 she was grafted, and in 1929 produced a foal. The operation had been disappointing in cows, and in them it was only done as a last resort. For rams, boars, and bulls, however, grafting was an important economic proposition. In the case of one pedigree ram, 6 years of age, a noted sire, whose progeny were making record prices at shows, the sexual power showed great diminution, and grafting was accordingly done in 1927, the whole testicle from a young ram being grafted into each flank. One graft took well, the other became detached. In 1928 this ram produced 13 lambs, in 1929 10, in 1930 36, and in the following season 48.

In the operation itself the two most important considerations were strict asepsis and speed. In small animals a convenient site of implantation was the flank; in larger animals the centre of the neck was best. General was preferable to local anæsthesia, though the latter did not appear to interfere with the graft. He made a pocket in the subcutaneous tissue, and this obviated suturing the gland into position after the grafting.

DISCUSSION.

The PRESIDENT thought the results reported should encourage further trial. Some feared that when an animal of superior breed was receiving a gland from an inferior one, there would be deterioration as a consequence, but this did not seem to be borne out by Mr. Male's work.

Major J. B. WALKER said he would have liked to learn what was the condition of the female in each case before the grafting was done, as well as after. He gave some instances of rejuvenation in pack-horses during the war as a result of gland-grafting, and said that for this purpose he found thyroid grafts as efficacious as ovary. By careful choice of cases he believed one could promise 100 per cent. of successes.

Captain S. R. DOUGLAS pointed out that good results in rejuvenation could be obtained by sterile mincing of gland, and injecting this through a trocar. Results were rapid.

Captain S. R. REYNOLDS considered that mass statistics were needed before definite conclusions were arrived at as to the wisdom of gland-grafting. Mr. Male had not mentioned why the animals referred to were sterile. Careful choice of those to be dealt

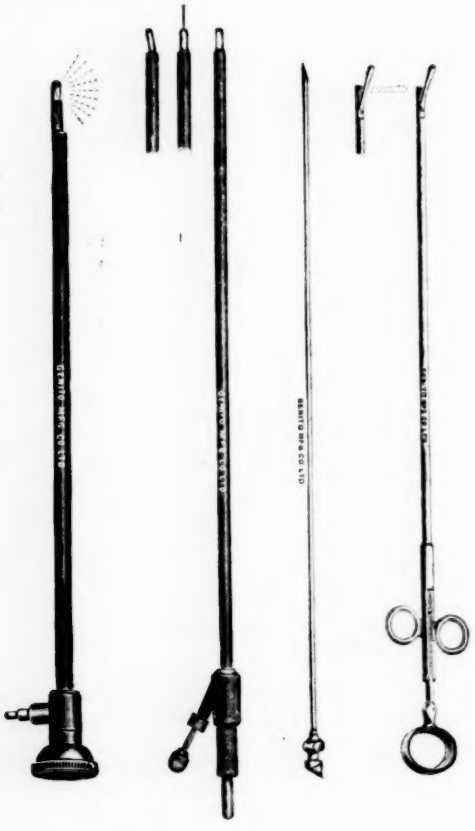
with must be made, otherwise the operation could easily get into disrepute. The value of the engrafted gland must be short-lived, necessitating a repetition of the procedure. Every horse so dealt with should be registered and its subsequent performances should be recorded.

Mr. MALE, in reply, said he did not know a means of estimating the degree of ovarian deficiency in an animal. He had not had experience with thyroid grafting. One veterinarian had grafted 25 bitches, and succeeded in 22. The longest recorded life in the grafted tissue was 18 months, but perhaps the operation revived the activity of the animal's own glands. Animals were always carefully chosen.

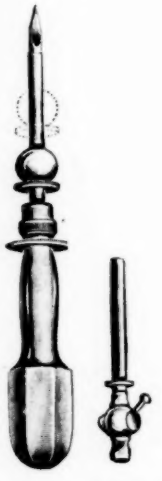
NEW INVENTIONS

A SET FOR THORACOSCOPY AND THE DIVISION OF ADHESIONS.

THIS set of instruments for thoracoscopy and the division of adhesions is the result of the experience we have gained whilst using the Jacobæus, Davidson, and Chandler instruments and we believe it to combine the best points of these various appliances. Because



of the definite increase of mobility and accuracy of working which the double puncture method gives we have adopted this method; we regard the suggestion that the extra puncture adds to the risk of sepsis as having no basis in reality, especially as more than one puncture is frequently needed by the single method on account of difficulties of approach; and we have found that emphysema is generally less marked by the double method, probably because there is less movement of the instrument and cannula. The set comprises: a boilable telescope with an angle of vision of 30°, two spare lamps and cable, a trocar, faucet, and two cannulæ of identical size, two stainless steel needles 10 in. long-fitting a 5 c.cm. record syringe with a bayonet catch, for anæsthetising the adhesions, and two endodiathermy electrodes made to our suggestion, the one straight and the other angled in order that it may be possible to work at right angles to the adhesion from any angle at which the cannula may have been introduced. These electrodes are constructed on the same principle as that used in the Chandler instrument—namely, that through a large hollow diathermy electrode a thin tungsten wire controlled at the proximal end can be pushed forward for use with the cutting current. A Maurer pattern articulated hook for investigating the dimensions of the adhesion completes the set. The telescope allows an excellent vision of the adhesion both at distance and close up and the cutting can be undertaken at the optimum viewpoint; by means of the two cannulæ of equal size the telescope may be interchanged with the electrode so that viewing or cutting can be done from either aspect, thus rendering the right angle telescope, which can be supplied as an extra, practically unnecessary. The telescope being metal there is no insulation to give way in straining to reach an adhesion. By means of the electrode described above it is possible to coagulate and cut without the complicated change over switch and two foot switches necessary when using Maurer's method. By means of the long needle through the second cannula the base of the adhesion is easily anæsthetised, cutting out the necessity for another expensive piece of apparatus. The set comprises all that is necessary for the dealing with adhesions by the two-puncture method and will be obtainable in polished mahogany case. The electrodes are used in conjunction with the special diathermy apparatus designed by the Genito-Urinary Co., Ltd., 28a, Devonshire-street, W., who are the makers of this apparatus.



A. J. SCOTT PINCHIN, M.D. Lond.
H. V. MORLOCK, M.D. Lond.

SPACE ALLOWANCE IN INFECTIOUS DISEASES HOSPITALS.—Warwickshire county council has called the attention of the Rugby rural district council to the requirement of the Ministry of Health that a space of 144 square feet must be allowed to each patient in infectious diseases hospitals. Dr. H. G. Ward, the medical officer of health, told the council that this meant that at the Rugby Joint Hospital, at Harborough Magna, where there is now accommodation for 22 beds and 12 cots, there would be room only for 13 beds, and that accommodation would have to be provided for 20 additional beds. The council decided unanimously to oppose the demand, the chairman remarking that they "must fight this expenditure to the very last ditch."

REVIEWS AND NOTICES OF BOOKS

Quantitative Clinical Chemistry.

Vol. I.: Interpretations. By JOHN P. PETERS, M.D., M.A., Professor of Internal Medicine, Yale University School of Medicine; and DONALD D. VAN SLYKE, Ph.D., Sc.D., Member of the Rockefeller Institute of Medical Research. London: Baillière, Tindall and Cox. 1931. Pp. 1264. 54s.

Prof. Peters and Mr. Van Slyke have provided a standard work on the ground common to medicine and biochemistry of which no review can adequately express the value. Six years ago the authors began the task of compiling a handbook on quantitative clinical medicine. The close collaboration of a clinician and biochemist over such a period resulted in a most comprehensive collection of material which had outgrown the scope of a single book. They wisely decided to divide the work into two volumes. Vol. I. deals with "Interpretations," while Vol. II. will be devoted to "Methods of Analysis."

The present volume—on interpretation—contains 21 chapters, of which the most informative discuss total metabolism, non-protein nitrogen and nitrogen metabolism, uric acid, proteins of blood plasma, urine and other body fluids, calcium, chlorides, and phosphorus.

Each chapter contains a very full bibliography and we have the authors' assurance that "all articles have been examined personally by one or other with a few unattainable exceptions which are specifically mentioned; and the references even to these have been verified." This may serve as an indication of the care and diligence with which this volume has been prepared, especially when it is realised that the total references number nearly 4000. Each chapter is almost a monograph on the particular subject under consideration. Neither author is alone responsible for a complete chapter because the interests of the clinical chemist and the chemical clinician are so far interlocked that seldom could either leave a paragraph written by the other entirely untouched.

The physiological rôle, distribution, and properties of each substance are first dealt with; then follows a discussion on its significance and variations in various clinical conditions. Much original work is included, and it is worthy of note that treatment is not neglected. In the chapter on total metabolism, the disorders of the thyroid gland are discussed. Little time is spent on classification, but the review of recent work is substantially complete though no mention is made of Holst's work on blood iodine.

Under the heading Carbohydrates, diabetes is fully considered. The authors have wisely refrained from too exhaustive a discussion on practical applications and interpretations. They have preferred to offer their own experiences and this section of the book has great value. They describe the significance of the level of the fasting blood-sugar in diabetes as depending on: (1) severity of the disease; (2) type of the disease; (3) presence or absence of complicating conditions; (4) diet, and treatment which the patient has received during the preceding period; and it is in connexion with (4) that much useful information is given. Renal function tests are compared and discussed, blood-urea and creatinine, phenolsulphonephthalein excretion, and hæmoglobin content being specially considered. Simultaneous blood-urea and urinary urea tests are strongly advocated by the authors as the most reliable indication of kidney function. By means of a simple formula, a "maximum" or "standard" urea clearance is obtained according as the patient excretes more or less than 2 c.cm. of urine per minute respectively. They regard this volume of blood cleared of urea per minute as a measure of renal function. One of them (V. S.) has stated that in hæmorrhagic (or glomerular) and degenerative Bright's disease (nephrosis), decrease in blood-urea clearance is proportional to glomerular destruction, whereas in the arterio-sclerotic kidney it serves as an index of damage to arterioles. The diagrams on the cases of nephritis illustrating the complete biochemical picture is rather difficult to follow. The different types of nephritis are referred to throughout the various chapters according to the subject matter, and this serves to provide a useful classification, based upon the work of Volhard and Fahr, and Addis. In the chapter on calcium the influence of the endocrine glands on calcium metabolism and serum calcium in connexion with the associated clinical conditions is fully discussed.

This work is encyclopædic and when complete will be a classical book of reference on quantitative clinical chemistry.

Surgical Emergencies in Practice.

By W. H. C. ROMANIS, M.B., M.Ch. Cantab., F.R.C.S. Eng., F.R.S. Edin., Surgeon to St. Thomas's Hospital, &c.; and PHILIP H. MITCHINER, M.D., M.S. Lond., F.R.C.S. Eng., Surgeon in Charge of Out-Patients, St. Thomas's Hospital. London: J. and A. Churchill. 1931. Pp. 608. 18s.

IN this work the aim of the authors has been to provide the practitioner with a book in which he can find really practical information on surgical conditions with which he may be compelled to deal, and the authors have taken as their definition of emergency those conditions which call for treatment, either operative or non-operative, within 48 hours. The pathological aspects of the subject have been omitted and in the main the text is abstracted from the authors' well-known text-book of surgery, the presentation being concise and clear. It is perhaps open to question, however, whether the definition of emergencies has not been unduly stretched, and whether a book of this type may not sometimes be an inducement to imprudent interference on the part of the practitioner. If, however, this danger is kept in mind, and the family doctor is prepared to assess each case with a modest recognition of the bearing his own lack of constant experience may have on its ultimate issue, it can do no harm. Practitioners who wish to have at hand a sound book to which they can refer before undertaking emergency surgery could do no better than to buy this book.

Prevention of Disease in the Community.

By CURTIS M. HILLIARD, Professor of Biology and Health, Simmons College, Boston, Mass. London: McGraw-Hill Book Company. 1931. Pp. 193.

MUCH important and useful health knowledge has been provided in small bulk in this book. It is up to

date, interesting, and easily read. A chapter on immunity presents the known facts in a way which can be readily understood. The principles of vaccination and diphtheria immunisation are explained, and the value of such processes as a means of reducing the incidence of disease in a community are emphasised. The old theories as to the importance of bad odours and defective drainage as the causes of certain diseases, and of ptomaines as the cause of food poisoning, are effectively disposed of. A chapter on milk supplies is well compiled; the author emphasises the nutritional value of milk, but at the same time draws attention to the fact that only by scrupulous care in the methods of production and in the handling of milk can a safe supply be assured. The book should be of use to students taking courses in hygiene in secondary schools and colleges, for whom it is primarily intended, and to teachers engaged in lecturing on health to older children. It is also quite suitable for the instruction of lay-workers in public health, such as health visitors and school nurses. The photographic reproductions are not very good.

Technique, Effects, and Uses of Swedish Medical Gymnastics and Massage.

By Dr. J. ARVEDSON. Translated by Dr. MINA L. DOBBIE. London: J. and A. Churchill. 1931. Pp. 200. 12*s*. 6*d*.

IN medical gymnastics at the present time conflicting modifications of technique and outlook are being tried out and assessed. It is useful therefore to have a clear statement of orthodox practice in our hands. We are thus indebted to Dr. Mina Dobbie for her initiative and energy in giving us a translation of the second revised edition of Dr. Arvedson's "Handbook of Massage and Medical Gymnastics," which, with its companion volume—"Medical Gymnastics and Massage in General Practice"—is based on the principles of the Central Institute, Stockholm. The book before us is clear in matter, type, and general arrangement. Dr. Arvedson, unlike Ling, prefers to consider massage as an entity, and not a subdivision of medical gymnastics; so the first section of the book is devoted to an able description of massage technique with explanations of the effect and reactions of each kind of massage. More space is devoted to direct nerve treatment than in many similar handbooks, and clear anatomical guides for accessible treatment points of the peripheral nerves are supplied. This is of value in indicating—as does the Kellgren-Cyriax method—that many nerve injuries or loss of tone can in skilful hands be dealt with outside the electrical department. In each section, whether referring to remedial movements, special scoliosis treatment, or to grouped exercises influencing circulation and respiration, the muscle work, aims of treatment, and effects are clearly outlined. Home exercises are described and the book finishes by applying the knowledge accumulated to general rules for compiling medical gymnastic tables, or one might say, a medical prescription of exercises.

Those teachers who are working on very modern lines may regret that Dr. Arvedson has not incorporated newer tendencies, such as the emphasis on rhythm and mobilisation in re-educative work, but for examination purposes the book supplies a sound structural basis, and is a good handbook for students. The book is freely illustrated and though the photographs date from 1906 and show in some cases a rigidity of posture not now affected, they serve their purpose well.

Archives of Neurology and Psychiatry.

From the Central Pathological Laboratory of the London County Mental Hospitals, Maudsley Hospital, Denmark Hill, London. Edited by FREDERICK L. GOLLA, M.B. Oxf., F.R.C.P., Director of the Laboratory and Pathologist to the London County Mental Hospitals. Vol. X. London: P. S. King and Son, Ltd. 1931. 15*s*.

THIS tenth volume of the Archives consists, like its predecessors, of a series of reprints of papers by the various workers in the pathological department of the London County Mental Hospitals Service. The articles cover a very wide range. There are several on the pathology of general paralysis, and its treatment by induced malaria and tryparsamide. Others deal with the state of the blood in the psychoses; for instance, the sugar and chlorine content, the protein partition of the serum, and the acid-base equilibrium. Dr. Golla himself writes on some recent work on the pathology of schizophrenia, and with Dr. S. Antonovitch on the respiratory rhythm in its relation to the mechanism of thought and on the relation of muscular tonus and the patellar reflex to mental work. Among papers reprinted from THE LANCET is one on the excitability of the respiratory centre of psychotics by Dr. R. G. Marsh; studies in the acid-base equilibrium by Dr. Isabella Robertson; an article on the functions of the liver in induced malaria by Dr. R. G. Williams; and Dr. E. Mapother's impressions of psychiatry in America. Three papers deal with epidemic encephalitis: the patellar reflex, the ocular syndrome, and the oculogyric crises.

The twenty-six contributions gathered here constitute a valuable contribution to psychopathology, and their presentation in one cover will be a convenience to those interested in this branch of medicine.

Gynecological and Obstetrical Pathology.

Including chapters on the Normal Histology and the Physiology of the Female Genital Tract and the Peritoneum. Second edition. By ROBERT TILDEN FRANK, A.M., M.D., F.A.C.S., Gynecologist to Mount Sinai Hospital, New York City. London: D. Appleton and Co. 1931. Pp. 547. 30*s*.

THE first edition of this book appeared eight years ago. The many notable advances in the interval have made it necessary to rewrite certain sections, especially the chapter dealing with the relation of the normal histology of the female genital organs to symptoms and physiological function. A new chapter has been added dealing with the peritoneum, and that on obstetric pathology has been amplified. The title of this book is rather misleading, since the part dealing with obstetric pathology extends to only 45 pages, and this includes ectopic gestation and chorion epithelioma. The author almost disarms criticism by his admission that "to deal adequately with this large subject would require a separate volume." Two outstanding features of the book are the bibliography at the end of each chapter and the 423 illustrations, almost all of which are original. As a work of reference it is valuable.

THE LANCET.

LONDON: SATURDAY, JUNE 13, 1931.

LONDON'S UNIVERSITY CENTRE.

THE housing of the University of London, which has been for years the subject of acrimonious discussion, seems likely to be finally provided for on a site of some ten acres northward of the British Museum. The headquarters of the University have been successively located at Somerset House, Marlborough House, Burlington House, Burlington-gardens, and at South Kensington, and as reported in 1911 by the Royal Commission, of which Lord HALDANE was chairman, "His Majesty's Government has been responsible for the housing of the University throughout its history." The University buildings in Burlington-gardens, familiar to an earlier generation of graduates, were erected by and at the expense of the Government in 1871 for the exclusive use of the University, and the foundation-stone still bears its name, while its adornment with the statues of NEWTON, HARVEY, LOCKE, BENTHAM, and others testifies to the academic purpose of the buildings. It was in 1899 that the Senate was induced, somewhat reluctantly, to transfer the University headquarters to what was described by the Treasury as "an adequate and dignified home for the University in the Imperial Institute buildings" at South Kensington. At that time, under the Act of 1898, the University was undergoing one of its reconstitutions, and the Government vouchsafed, in a Treasury minute of Feb. 16th, 1899, that the new accommodation would not only be fully equal to that at Burlington-gardens but that there should also be "such provision as may hereafter be needed for the full extension and development of the University under the statutes and regulations made by commissioners appointed by the Act of 1898."

Within ten years it was evident that the accommodation at South Kensington was quite inadequate for the growing work of the reconstituted University and was also inconvenient in other respects. In 1912 a first attempt, which proved abortive, to remove the University to a site in Bloomsbury attracted public attention. Other sites at Hampstead, at Kensington, at Somerset House were suggested, and the Senate at one time favoured the Foundling Hospital site for its future home. When Mr. H. A. L. FISHER was President of the Board of Education in 1919 he advised the Government to offer to the University "a site and buildings near the British Museum." In 1920, however, this offer was modified to the exclusion of providing the buildings; it was also conditional on the transfer of King's College to the Bloomsbury site and the surrender of the present premises of the University as well as the site and buildings of King's College to the Government. Owing to the refusal of King's College to move, the offer was declined by the Senate. Eventually, however, the site, after resale to the vendor, was purchased in 1927 for £525,000, the Government contributing £212,500, while the Rockefeller foundation generously provided the funds required for completing the acquisition of the land. The Treasury made their contribution on the understanding that it was "intended to be in full satisfaction of any liabilities that might be deemed to lie upon the Treasury under the Treasury minute of 1899 to provide accommodation for the future development of the University."

On Presentation Day last month Earl BEAUCHAMP, the Chancellor, announced that the Court of the University were within sight of securing the money for the buildings to be erected on the site during the next five years, and that the laying of the first stone would take place within the next twelvemonth. Mr. CHARLES HOLDEN, F.R.I.B.A., has now been appointed the architect, and among the first buildings to be erected will be the administrative offices and University hall, the Library, and premises for the institute of historical research, the Courtauld institute of art, and the officers' training corps. The Birkbeck college, the London day training college, the students' union, and possibly residential chambers may also be erected on the site. The cost of the scheme is anticipated to be between £2,000,000 and £3,000,000. The Court may congratulate themselves on having secured Mr. HOLDEN for so important and responsible a task. The new Underground building at St. James's Park, and the King's College for Women at Campden Hill are examples of the beauty and distinction of his conceptions.

A MATERNITY SERVICE.

WHILE much has been written about mortality in childbed, the crippling effect of maternity upon many of the survivors has not received the attention it deserves. Some 3000 women die each year in England and Wales as the direct result of childbirth, but it is almost as disturbing to know that 60,000 mothers, or 10 per cent. of the whole parturient population, are disabled, many of them gravely. If the late results of child-bearing are considered, an additional figure of 5000 may be added to the primary mortality, giving a total annual loss of 8000 women in England and Wales. These facts cited in Prof. BLAIR BELL'S first Ingleby lecture, published in our issue of May 30th, constitute a grave indictment of the present-day risks of motherhood and emphasise the urgent need for coördinated national effort to combat them. His second lecture, which appears in this issue, sets out the basic principles which should underlie any comprehensive scheme of remedy. Prof. BELL envisages the formation of a central council, small in number, and consisting of representatives of all interested parties; such an ad-hoc body would presumably act in an

advisory capacity to the Minister of Health, and as such its establishment should have the support both of practising obstetricians and of public health authorities. It is refreshing to find someone calling a halt in the present competition between voluntary and municipal effort, and advocating the pooling of existing resources. Year by year under the pressure of public opinion the State is accepting greater responsibility in attempting to solve the problems of maternal mortality and disablement. Stimulated by the Ministry of Health many municipalities are erecting large maternity hospitals and conducting maternity homes. Prof. BELL points out that these institutions are coming under the ægis of the local medical officers of health without reference to local obstetricians, with the result that the beds are not available for teaching purposes and, what is more important, are not always in the charge of experts. Chaos results from the curious fact that whilst financial resources are at the disposal of the public authorities, expert knowledge and skill are at present almost entirely at the disposal of the voluntary organisations. Such a distribution of assets must lead to wastage of public funds without corresponding gain in net results. Pooling of available resources—intellectual, material, and financial—is essential in order to ensure efficiency in the medical, nursing, and administrative services.

The scheme outlined by Prof. BLAIR BELL includes and utilises all existing facilities without needless multiplication of small units, isolated in function and personnel. Many of the municipal antenatal clinics and maternity homes are staffed by young medical graduates with a public health diploma and a few months resident experience at a maternity hospital. Applications are being received by teaching authorities from medical officers of health to provide short post-graduate courses to fit junior officers to take up new duties in the maternity service. But expert obstetric knowledge cannot be gained by attendance at such courses, and the possession of a diploma in obstetric medicine should be of more value than a diploma in public health for those who accept the responsibilities of obstetric practice. The problem is really one of organisation and the proper utilisation of existing facilities, rather than of additional units. In many communities, large and small, in Great Britain to-day we have voluntary and municipal hospitals existing side by side, each jealous of the activities of the other and yet both working for the common weal. On the one side is tradition coupled with expert knowledge and skill; on the other are the facilities provided by public funds and administrative capacity. Prof. BELL conceives of base, field, and emergency hospitals, coupled up with existing antenatal, postnatal, and infant welfare clinics, the whole supervised and directed by the Ministry of Health through a central advisory council, and bridging the gulf between conflicting interests. General medicine and surgery are no doubt confronted with similar problems, but their need is not so urgent. For a truly national maternity service this country has the personnel, the necessary expert knowledge, skill, and equipment at its disposal if it will but use them.

On the position of nursing in such a service Prof. BELL holds views which will meet with criticism. He would have every midwife a fully qualified and State-registered nurse, and he points to the fact that the best results quoted in this country are those of the "Jubilee" nurse-midwives. In Sweden, where mortality from obstetric causes is notably low as compared with such countries as Ireland and the United States, the majority of confinements are attended by midwives who have had two years' training without general medical and surgical experience, and this fact has been used in support of the argument for maintaining the British midwife and improving her training. Conditions in Scandinavian countries are however very different from conditions here. The careful selection of women chosen for training, the good physique of the mother, the large proportion of confinements taking place in hospital, all these favour the Swedish solution. British mothers are often not of good physique; partly from choice and tradition, partly from necessity nine-tenths of them are confined in their own homes; the midwife may be an uneducated woman with a short and special training. Few would dissent from Prof. BELL that the fully certificated nurse-midwife, if available, would be a great asset in a maternity service; unhappily no more than 25 per cent. of the nurses who obtain the C.M.B. certificate subsequently practise midwifery. The work is arduous and the rewards poor. But with improved conditions of service, better educated and better trained women would be attracted and in course of time the midwife pure and simple would be superseded. The provision of hostels, regular hours and holidays, adequate payment and a system of promotion are all factors which must enter into the establishment of an efficient service. There is no lack of material if it is mobilised upon sound lines.

On the urgency of the problems set by Prof. BELL there can be no difference of opinion and his appeal to the Ministry of Health, the public health services, the voluntary hospitals, and the practitioners generally should not pass unheeded.

OUR PRISON POPULATION.

THE annual report [1] of the Prison Commissioners, just issued for the year 1929, contains the usual survey by the Medical Commissioner. It is the last we shall have from Dr. G. B. GRIFFITHS, who retired last year after long and honourable service, and was succeeded by Dr. NORWOOD EAST. Dr. GRIFFITHS contrasts present prison methods with those which obtained when he first took up work as medical officer over 35 years ago. There were then no Mental Deficiency Acts. The cases now known as mental defectives were lumped together, with those now considered non-certifiable, under the vague description "weak-minded," and were usually treated under modified prison discipline.

[1] H.M. Stationery Office. Cmd. 3868. 1s. 6d.

Until the enactment of Section 1 of the Act of 1913 (afterwards modified in 1927), the medical officer had no standard to work to, except perhaps Maudsley's dictum respecting "absence or deficiency of a greater or less number of the cerebral reflexes"—a standard which, as Dr. GRIFFITHS remarks, could not confidently be mentioned in court because it might conceivably be applied to the deaf, dumb, or blind, and could hardly do general duty in relation to criminal responsibility. Before the 1913 Act the mentally deficient prisoner, on completing his sentence, took his gratuity and was discharged in the ordinary way. Naturally the gratuity was often quickly spent in riotous living, and the discharged prisoner was soon back in prison, having had little to do but commit another offence. With this former looseness of treatment Dr. GRIFFITHS contrasts the modern method—the careful psychological investigation working to the statutory standards, the medical officers alert to recognise and classify mental disease, the certification of the prisoner under the Lunacy or Mental Deficiency Acts, or else his transfer to a special department for mental defectives or a special section set apart for observation, training, and work, and finally, the care for his future if he is still considered uncertifiable on completion of his sentence. Dr. GRIFFITHS estimates that the administration of the 1913 Act has reduced the average daily prison population by at least 200.

We discussed lately [2] the danger and expense which the community suffers through criminal lunatics under a system which has often failed to recognise insanity until crime has been committed. The figures which we then gave are supplemented by those now available in the report under review. In local prisons 102 prisoners were certified insane during 1929; in addition, 278 remand prisoners were found by medical officers to be insane and were dealt with by the courts; 19 persons were found to be insane on arraignment, and 20 were found (in the ridiculous and indefensible phrase which the law has not yet abandoned) "guilty but insane." Another 2268 persons were remanded to prison for observation so that report on their mental condition could be furnished to the court. In a paragraph on the work of aid societies to the discharged prisoner, the report cites other evidence of the mental and physical level of the male convict. Figures supplied last year by the Central Association for the Aid of Discharged Convicts indicate that, out of 1600 men discharged to the care of the association in a period of three years, over 400 were fit for light labour only, 40 were completely unfit to earn a living, and 100 were of low mentality.

Gradually, it seems, our prisons are being emptied. In 1913 the daily average population was 18,155; in 1929 it was 10,861. In this 16-year period the average figure for local prisons has dropped by nearly one-half; it has thus been possible to reduce the number of local prisons from 56 to 31. In the same period the figure for convicts in penal servitude has come down from 2704 to 1461. Sentences, of course, are growing more lenient. In 1913 there were 12 life sentences, in 1929 only one. The size of our prison population is naturally governed not only by length of sentence, but also by the number of committals. There was in 1929 a decline in committals though, as the report explains, this is not due to a positive decrease in crime. Recent criminal statistics show that crime, judged at any rate by the totals of indictable offences known to the police, has not in fact decreased in the past 20 years; but many offences formerly punished by imprisonment are now dealt with by fine or probation. In non-indictable offences such as drunkenness, assault, prostitution, begging, and sleeping-out, there is a striking decline in the number of prisoners; this result can fairly be attributed to improvement in social conditions and social behaviour. Notes by the governors of various prisons suggest that magistrates are still sending youngsters to imprisonment without first exhausting other possibilities. One boy found his way to Birmingham prison for failing to pay a fine for breach of a by-law forbidding throwing stones into the canal, another for riding a bicycle without a light. Kind friends soon paid the money and found employment; could not this have been done without imprisonment? Some instances are undoubtedly difficult. The governor of Winchester prison had 50 lads and young men from Southampton convicted as stowaways. Many were youngsters of excellent character, and the standard sentence of 28 days hard labour looks a little old-fashioned in their case. Women prisoners are dwindling to very small numbers; many of them commit only minor offences. Two women in Hull prison are stated to have nearly 50 convictions for drunkenness; their drink is methylated spirits; they come back to prison month after month for 28 days, and are seldom at liberty for more than a few hours. Frequent return to prison seems also to be a habit of civil process prisoners—such as those who fail or refuse to pay rates, bastardy arrears, or sums due under orders for wife maintenance. If there are people who imagine that imprisonment for civil process is non-existent, they will be surprised to read that there are several thousands of such prisoners. The report has interesting comments on recidivism, prison industries and payment, the Borstal system, and the development of education (and possibly entertainment) by wireless. An appendix contains notes in which voluntary workers describe their experiences. It is tempting to quote such extracts as the aphorism that "few men with hobbies come to gaol." Readers who appreciate the devoted work of the prison visitor should study these notes in full.

[2] See THE LANCET, May 30th, p. 1200.

EXTENSION OF MERTHYR HOSPITAL.—A memorial to the late Lord Buckland in the form of an extension, which has cost £40,000, of Merthyr Tydfil General Hospital was opened on Friday last, when a bronze statue of him by Sir W. Goscombe John was also unveiled. The enlargement provides greatly increased scope for radiological work, massage, and orthopædic treatment, with specialised departments for eye, ear, and throat cases, together with several extra wards, one of them for children. Sun balconies are attached to the various wards. Lord Buckland was president of the hospital.

ANNOTATIONS

DIRECT REPRESENTATION ON THE G.M.C.

AT this summer session of the General Medical Council it was held expedient to confer on registered practitioners resident in England and Wales the power of returning an additional member to the Council, and the Privy Council is to be asked to obtain Royal assent, on the understanding that the addition shall not be made until the next election of direct representatives. The last such addition was made in 1909 on the motion of Dr. Langley Browne, who pointed out that representation had been given to the new universities, without additional direct representation to the great body of the profession in the country. His motion was carried by 17 votes to 5, 8 members of the Council abstaining and 3 being absent. Sir Norman Walker, in proposing the addition last week, said that at the first election in England and Wales there had been one representative for 6000 doctors; at the last election the proportion had fallen to one for 8000. In Scotland there was one representative for 5000, and in Ireland one for 3500. It was therefore not unreasonable to suggest that England and Wales should have five instead of four members. He regretted that it was not possible to couple the recommendation with one for redistribution of the constituents. The four present representatives, he said, usually came in and went out in pairs, although occasionally there had been four elections in a year; the addition, he thought, should not be made until the next election. Dr. Letheby Tidy suggested that the proportion of direct representatives to the total size of the Council should be taken into consideration, as otherwise the mere increase in number of practitioners on the Medical Register might be held to justify further representation. Sir Holburt Waring also deprecated taking the size of the constituency as a criterion for representation. One or other of the bodies now represented might demand a second representative on the ground of having 18,000 or more members. The Council, he thought, was already large enough. Sir Robert Bolam, in supporting the motion, said the claim was not based merely on numbers. A very cogent reason was the increasing necessity to have men on the Council in close contact with the daily life of the profession; particularly was this the case in disciplinary work. The complexities of the doctor's new relationship with municipalities and governmental departments were not readily understood by those not engaged in practice. The Council, he thought, should not lay itself open to the reproach of being out of touch with the realities of professional life throughout the country. Money thus spent would be worth spending. Sir Norman Walker's motion was carried by a large majority.

RECURRENT VASCULAR KERATITIS.

COMMON causes of vascularisation of the corneal surface (as distinguished from interstitial keratitis) are corneal ulcer and phlyctenular disease. A less common cause in this country is trachomatous pannus. It also occurs in connexion with facial acne and mechanical irritation from in-turned lashes. In rare cases it is found without any obvious cause and with recurrences that may continue for years.

Mr. J. H. Doggart[1] has collected twelve of these cases, seven men and five women between the ages of 18 and 62. In four of them the trouble began with a marginal ulcer of the cornea and in five others the corneal invasion followed repeated attacks of conjunctivitis. The cornea is invaded by superficial vessels round its whole circumference. Greyish opacities with indistinct outlines are present in the cornea and with each successive attack the vessels and the opacities approach nearer to the central area when vision is necessarily seriously impaired. Although there is no corneal ulceration in the early stage of these opacities, few cases of long standing escape it. The causation of the disease is obscure, but septic absorption, especially from the teeth, is a possible cause. Apart from cases where a definite septic focus is found the treatment is unsatisfactory. Locally the old-fashioned operation of peritomy can be tried.

[1] Proc. Roy. Soc. Med., 1931, xxiv., 6.

STERILISATION AND MENTAL DISEASE.

FOR many years Dr. Rüdin has been investigating the problems of racial psychiatry in Germany. In a pamphlet issued by the Eugenics Society[1] he summarises some of his more salient findings, as well as his present views on the steps that might be taken to reduce the incidence of hereditary diseases. Among the morbid conditions considered are Huntington's chorea, myoclone epilepsy, schizophrenia, manic-depressive insanity, idiopathic epilepsy, alcoholism, and mental defect. Rüdin's findings in an extensive statistical investigation of schizophrenia and manic-depressive insanity lead him to think that genetic carriers of these conditions may often be detected through their exhibiting psychological abnormalities of minor grades. "Where one parent is schizophrenic (or where both show a high degree of mental abnormality, as is so often the case in schizophrenic families) 9 to 10 per cent. of the children," he says, "are schizophrenic, with an additional 34 to 42 per cent. of psychopaths of less severe grades, some nearly resembling schizophrenia; this gives a total of 43 to 52 per cent. of offspring affected in one way or another. Where both parents are schizophrenic 53 per cent. of the offspring are schizophrenic and 29 per cent. psychopaths. This gives a total of 82 per cent. of mentally affected individuals and a residual 18 per cent., in whose case, it should be noted, the account is not yet closed, as the attack may occur at later ages." "Manic-depressive insanity," he says, "is more strongly inherited. Where one parent is a manic-depressive 30 to 33 per cent. of the children will show the same disease; there will also be a number of cyclic psychopaths of less severe grade which at its minimum equals the clear-cut cases; thus, the total percentage of mentally afflicted offspring is at least 60 to 66 per cent. Where both parents are manic-depressives, 60 to 65 per cent. of the offspring will inherit the disease, and 35 to 40 per cent. will exhibit minor forms of cyclic abnormality. In fact, practically all the offspring will here be mentally abnormal." It was, moreover, found that the expectation of schizophrenic insanity in Munich and a considerable part of Bavaria reaches 8·5 per 1000 in the average of the population and that of manic-depressive insanity 4·1 per 1000. Rüdin concludes

[1] Psychiatric Indications for Sterilisation. By Ernst Rüdin. (Abridged translation.) Obtainable from the Eugenics Society, 20, Grosvenor-gardens, London, S.W.1. 6d.

his review of the incidence of these disturbances in the following words: "Any instructed person viewing this situation from a humane standpoint can scarcely escape the conclusion that sterilisation is indicated in these cases." He ends his paper with a plea for more intimate coöperation between geneticists and medical men. Only thus, he holds, can the necessary information be accumulated to enable us adequately to supplement, by genetic methods of prophylaxis, the activities of those who seek to prevent mental illness by applying to the individual the principles of mental hygiene. The application of sterilisation as a preventive eugenic measure is apparently as much hindered in Germany as in England by uncertainties as to the state of the law.

OBSERVATIONS ON POST-VACCINAL ENCEPHALITIS.

THE investigation of cases of post-vaccinal encephalitis has usually led to the opinion that although vaccination is the exciting cause, and a certain stage in the development of the vaccinal infection has determined the time of onset of the nervous symptoms, nevertheless some added factor is needed to set up encephalitis. That this adjuvant is not purely accidental is shown by the irregular distribution of the cases in time and place, especially the preference for certain years or periods and for the smaller communities as opposed to large towns, and by the occasional appearance of groups of cases in small rural areas. There is still a wide divergence of opinion as to whether infection with vaccinia virus itself is the actual cause of the changes in the central nervous system. It has frequently been suggested—notably by the two British committees which reported in 1925 and 1928, and by the Dutch Committee—that post-vaccinal encephalitis may be due to vaccination rousing into activity a latent virus infection. It was thought that widespread latent infections with poliomyelitis in a community might present opportunities for a combined action of the viruses of these two diseases. Such coöperation might be due either to poliomyelitis producing modified lesions in a central nervous system also infected by vaccinia or to some other kind of simultaneous activity of the two agents. That poliomyelitis virus has taken part in the production of post-vaccinal encephalitis has been rendered improbable by comparison of the relative seasonal prevalences of the two diseases and by the definite histological dissimilarity in the great majority of cases. Nevertheless, evidence has been put forward which suggests that a combined action of two viruses might have important results. In 1914 workers at the Rockefeller Institute[1] showed that poliomyelitis virus given intravenously to monkeys did not produce the disease unless damage was also done to the meningeal barriers, and O. Thomsen in 1912 claimed that incubation of mixed poliomyelitis and vaccinia virus into the skin produced typical poliomyelitis. Some experimental evidence of activation of a latent herpes infection by vaccination was advanced by Zurukzoglu in 1927. Dr. E. W. Hurst and Dr. R. W. Fairbrother[2] have lately tested these hypotheses in the laboratory on ten monkeys by combined inoculation into the brain or intravenously, and by inoculation of the skin with vaccinia and the brain with poliomyelitis. They found no reason to suppose that these viruses had any influence on the independent action of each other. The experiments do not give any positive help in the solution of the problem, but make the suggested influence of vaccinia on latent poliomyelitis virus extremely improbable, and give no support to the hypothesis of a combined action of two distinct viruses.

[1] Flexner, S., and Amoss, H. L.: Jour. Exp. Med., 1914, xix., 411, and xx., 949; Clark, P. F., Fraser, F. R., and Amoss, H. L.: Ibid., 1914, xix., 223.

[2] Hurst, E. W., and Fairbrother, R. W.: Brit. Jour. Exp. Path., 1931, xii., 17.

SHORTAGE OF MEDICAL OFFICERS AND NURSES IN THE SERVICES.

THE Prime Minister has appointed a committee to investigate the causes of the shortage of officers and nurses in the medical and dental branches of the three defence services, and to recommend means whereby it may be overcome. Sir Warren Fisher is the chairman and the medical members are Sir Harold Fawcus, director-general, Army Medical Services; Prof. G. E. Gask, director of the surgical unit at St. Bartholomew's Hospital; Sir Arthur Gaskell, medical director-general of the Navy; Dr. A. M. H. Gray, dean of University College Hospital Medical School; and Air-Commodore J. C. McIntyre, director of medical services, Royal Air Force. The secretary is Mr. M. Lindsay Scott, of the Air Ministry.

OSTEOPATH AND ANÆSTHETIST.

PARLIAMENT in 1858 declared the object of the Medical Act to be to enable persons requiring medical aid "to distinguish qualified from unqualified practitioners." For this purpose the Act created a system of registration and instituted the General Medical Council (not necessarily an exclusively medical body) to maintain the Medical Register and to supervise medical education under the control of the Privy Council. If persons requiring medical aid are to be enabled by means of the Register to distinguish the qualified from the unqualified, it follows that any form of partnership or alliance between a qualified and an unqualified practitioner must be ruled out; otherwise the distinction would inevitably be confused. The General Medical Council did no more than faithfully interpret the expressed intention of Parliament when its Warning Notice reminded registered medical practitioners that, if by their presence, countenance, advice, assistance, or coöperation they knowingly enabled an unqualified or unregistered person to engage in medical practice as if such person were duly qualified and registered, they would be liable to have their names erased from the Register. An advertisement by an unregistered osteopath requiring the part-time coöperation of an anæsthetist who must be a registered practitioner was sent to us lately for insertion. It being no part of the policy of THE LANCET to facilitate evasion of the Medical Act, the advertisement was not inserted. Any disadvantage caused by its rejection, however, has since been mitigated by an access of publicity. A daily newspaper, not so angry perhaps with medical journals which have rejected such advertisements as with the General Medical Council for the latent threat of removing the prospective coöperator's name from the Register, has used hard words of this "monstrous tale of medical obscurantism" and "benighted opposition of the medical hierarchy." Thus a generous-minded public is invited again to look upon osteopathy as a profession persecuted by the vindictive tyranny of a medical trade-union which cannot forgive the osteopath his successes.

The General Medical Council, however, is not one of those trade-unions which are above the law; it is merely doing what the law tells it to do; the law, as we have seen, was passed in the interests of the patient not of the doctor.

It seems necessary once more to repeat that the public is as free to-day as it was before the Medical Act was passed to go to an unqualified practitioner for treatment. Naturally the unregistered practitioner is forbidden by the law to pass himself off as registered; he is not subject to the professional standards and discipline of the General Medical Council in its capacity as a board of medical examination and registration, and he must not pretend that he is. He suffers also certain disabilities in matters such as the signing of death certificates and the prescription of dangerous drugs; possibly the law is not yet persuaded that such functions are prima facie within the scope of osteopathy. On the other hand, the registered medical practitioner has no monopoly of practice. Parliament did confer such monopoly on the registered dentist in 1921; it has left the registered medical practitioner exposed to uncontrolled competition from the unregistered and unqualified. The recent Bill for the registration of osteopaths has been wrongly described as a Bill to legalise osteopathy. Osteopathy is not illegal; anybody may practise it. This Bill, which we discussed at the time of its introduction,[1] seems to have been withdrawn, either because its supporters have not yet made up their minds what they want or because what they want is more than Parliament is at present ready to give. Meanwhile, as long as the Medical Act stands, so long must the General Medical Council perform its prescribed statutory duty. The supporters of the recent Bill have said that osteopathy is at present exploited by persons who are unqualified and incompetent. This is no reason for relaxing the principle of the Medical Act. Nor can the General Medical Council be expected to make personal exceptions to that principle.

PALLIATION OF ANGINAL PAIN.

ONE of the latest attempts to find a remedy for anginal pain is described by Dr. H. Krauter.[2] Stimulated by the successes of Dr. Godel of Prof. H. Vaquez's clinic in Paris, he set out to test for himself the effect of injections of an analgesic substance in true angina and other forms of left præcordial pain. As a result he claims that satisfactory results can be got in a good proportion of cases of true angina and that a measure of success is obtainable in inframammary pain. The substance he uses is a salicylate of benzyl and camphor dissolved in oil, and is sold under the name of Camphrosalyl. The injections are made subcutaneously over and round the site of greatest pain, one or two ampoules containing 5 c.cm. of the drug being used at each sitting. It may be necessary to repeat the injections at intervals for several weeks, for the pain which, it is said, often vanishes after the first, may return later. Krauter states, however, that it disappears altogether or is very much alleviated with repeated treatments. It is disappointing to learn that the results are indifferent in the large group of cases of so-called functional præcordial pain where there is also much need of relief. Again in true angina this treatment can only be palliative, and if the warning pain is banished the patient will get a false sense of security, and be tempted to overstrain an already much-burdened myocardium. If the method is used only for those cases that resist all other forms of therapy its scope will be small; nevertheless, it might be definitely valuable within these limits.

[1] See THE LANCET, Feb. 28th, p. 479.

[2] Les Algies Précordiales et leur traitement par les injections topanalgésiantes. By Henri Krauter. These de Paris. Jouve et Cie, 1931.

BIRTHDAY HONOURS.

WE regret that the list of honours published on p. 1269 of our last issue did not contain the name of Major-General Sir Samuel Guise Guise-Moores, K.C.B., C.M.G., who has been made a Knight Commander in the Royal Victorian Order. Since 1924 Sir Guise has been House Governor and Medical Superintendent of the Osborne Convalescent Home for Officers. A second name omitted was that of Dr. Eric Denholme Pridie, D.S.O., Medical Inspector in the Sudan Medical Service, who becomes an officer in the Order of the British Empire.

INFANTILE DYSENTERY IN GERMANY.

IN the last few years dysentery among infants has become commoner in Germany, and Dr. E. Hässler[1] is able to describe 235 cases observed in the university children's clinic in Leipzig in 1926–29. They were all "bacteriologically certain," and while no month was wholly free from the disease, August and September showed a definite peak. Most of the cases appeared to be caused by what Prof. Kruse, of the Leipzig University Institute, has called the "E" strain of dysentery organism; it apparently corresponds to what is known in this country as Sonne bacillus, although Hässler claims that Kruse-Sonne would be a fairer name. The patients were 121 boys and 114 girls, and the morbidity and mortality were worst in the first year of life, notably in the second three-month period; indeed, in the fifth month a mortality of 50 per cent. was recorded. The clinical features were mostly those of dysentery in general, but some of the infants very quickly reached the stage of general intoxication, while others were hardly ill at all. The stools were mostly characteristic of inflammation of the large gut, and Hässler observed two signs of value in diagnosis, although not always present—namely, disappearance of the cardiac dullness, owing to acute emphysema, and gaping of the anus. The blood picture showed no special change except where loss of fluid led to concentration. Most patients had definite meningism, especially at the onset, but no pathological changes save a slight increase of pressure were found in the cerebro-spinal fluid. The evidence is strongly in favour of "food material" being the main source of infection, and having had several unfortunate experiences, Hässler urges that every case of infantile diarrhœa should be regarded as dysentery until proved otherwise. At Leipzig an attempt at active immunisation has been made. A 24-hours' agar-slope culture containing various strains is washed off with 10 c.cm. of physiological saline at 37° C., heated to 57° C. for one hour to kill the organisms, mixed with 0·5 per cent. phenol, and further diluted 1 in 5 with 0·5 per cent. phenol-saline solution. Ampoules of 1 c.cm. are then prepared and the solution is used in doses of 0·1 c.cm. intracutaneously. Each year about 1000 children have been "vaccinated," mostly twice at a week's interval with a

[1] Jahrb. f. Kinderh., May, 1931, p. 284.

repeat in some cases after six weeks. Of the 4000 vaccinations of infants admitted to the hospital, 25 proved a failure in that infection occurred despite two or more attempts at immunisation, but in view of the bacteriological difficulties complete success could scarcely be anticipated. A test with controls is in progress.

NEW GROWTHS OF THE BLADDER.

SIXTEEN of Dr. Edwin Beer's collected papers[1] are concerned with neoplasms of the urinary bladder, and form an interesting recent history of the treatment of these lesions. In 1904 the Oudin current was used, through a cystoscope, to coagulate two tumours which were considered inoperable, and the result was satisfactory inasmuch as severe hæmaturia was immediately controlled, and the necrosed growth was discharged bit by bit. It was noted that the heat melted the insulating rubber at the end of the electrode, so that it became necessary to cut it off from time to time in order to prevent injury of the bladder wall. These cases were of the papillary type. By 1912, 183 cases of vesical papilloma had been treated, and answers to a questionaire which had been circulated were enthusiastic. An attempt to identify the gas produced during the application of the current did not succeed, though it was supposed to be hydrogen. By now Dr. Beer had also attempted to treat non-papillary carcinomata by the same means, but without success. He became convinced that no malignant growth could be cured by this method alone. A review of the situation in 1927 showed that this treatment had proved ideal for the simple papillomata, except for multiple papillomatoses, or for those in inaccessible situations. For such it was found best to open the bladder with a radio-knife, coagulate the growths with the current, and remove them with a cutting needle. Eighty-five per cent. of the cases have been apparently cured, and this treatment appears to be stabilised. The problem of implants has been dealt with, among other things, by flooding the wound with alcohol. As regards the malignant tumours, the position is very different, though not nearly so bad as formerly. Good results may be obtained in the papillary cases by the same method as is used for the benign ones, but the underlying wall should be resected as well. Ureters, if involved, must be re-implanted, but it is doubtful whether they all continue to function. The end-results with the infiltrating solid tumours are not so good. Dr. Beer has found deep X ray treatment uniformly unsatisfactory, and implantation of radium through the open bladder has only been partially successful, mainly because of the difficulty of so distributing the element as to attack all portions of the growth. Radon seeds implanted trans-cystoscopically in a number of cases of papillary carcinomata yielded good results in 50 per cent. A partial cystectomy made sufficiently wide to remove an extensive infiltrating carcinoma is apt to leave the patient with chronic discomfort, for the bladder does not distend well afterwards, despite experimental evidence to the contrary; so Dr. Beer proceeded to total cystectomy, and, in 1929, reported a series of eight cases. The mortality, considering the magnitude of the operation, is low, and, even if not cured, the patient is relieved of much suffering, and leads a comparatively bearable life. The problem of the ureters has usually been dealt with by implanting them in the skin. Much still remains to be done in the treatment of carcinoma of the bladder, but the outlook is more hopeful than it was a few years ago.

[1] Collected Papers, 1904–1929. By Edwin Beer, M.D. New York: Paul B. Hoeber. 1931. Pp. 827. $7.50.

THE SHEFFIELD CHAIR OF MEDICINE.

IN Sheffield, as in many other centres, the chair of medicine nominally dates from the foundation of the University, but is really the direct continuation of a lectureship in the old School of Medicine. Thus Dr. A. E. Naish, who becomes professor on the retirement of Dr. Arthur J. Hall at the end of this session,[1] succeeds to a line which runs back more than a century. The first lecturer, on the theory and practice of medicine, was one of the actual founders of the Medical School, Dr. (afterwards Sir Arnold) Knight, and he held the post from 1829 until 1843, when he left Sheffield for Liverpool. The early days of the School were cloudy as well as somewhat stormy, and there is a gap in the records until 1852, when Dr. Martin de Bartolomé was lecturer. He continued as such until 1885, being assisted at various times by Joseph Law, John Charles Hall, H. French Banham, and William Dyson. Dr. Dyson was senior lecturer (with the late Dr. W. S. Porter) when University College was founded in 1897, and thereafter he had the title of professor. He was followed, in 1901, by the late Dr. Duncan Burgess, who became the first professor of medicine in the University on its foundation in 1905. Dr. Arthur Hall took over this honourable but still honorary office in 1915, and now retires under an age limit. Dr. Naish, his successor, comes to the chair on the unanimous recommendation of the Faculty of Medicine.

POISONOUS HERBS.

LAST week a woman's death at Chorley, Lancashire, was attributed to herb beer made from nettles along with some other hedgerow plant which she had called wild carrot. It was suggested at the inquest that the plant was hemlock dropwort, although the *Œnanthe fistulosa* which generally bears this name is of unattractive appearance and has not been described as poisonous. A week earlier three members of a family in Wandsworth became acutely ill with nausea, vomiting, and collapse after partaking of cooked spinach in which Dr. P. T. Adams was able to identify five distinct specimens of other plants, some of them common in hedges.[2] It is not unlikely that in each case the poisonous herb may have been the hemlock, *Conium maculatum*, which is sometimes mistaken in the hedgerow for the fools' parsley, *Æthusa cynapium*, and in one recorded case for garden parsley with which apparently it had been raised from seed. The whole of the hemlock plant—seeds, leaves, stem, and roots—contains the poisonous alkaloid, coniine, of which a single drop may be a fatal dose. From Grecian times hemlock has been recognised as poisonous. Its effect is to paralyse motor nerve-endings, the obvious symptoms being an unsteady gait followed by reeling and ataxia; breathing becomes slower and weaker, death when it occurs resulting probably from paralysis of the medulla. In the Middle Ages hemlock gained some reputation as an anti-aphrodisiac and anti-lactagogue. It made a fitful appearance as a narcotic and sedative in the British Pharmacopœia, where it no longer stands,

[1] A note on p. 1257 of our last issue incorrectly stated that Dr. Naish was going to Edinburgh.

[2] Medical Officer, June 6th, p. 268.

although the dried unripe fruit is still official in the American book. Accidental poisoning is rare and should be rarer if the biological warnings are heeded, for the whole plant possesses an offensive smell, reminding some of mice and others of the urine of the male cat, while the stem and often the leaves are spotted as no other umbelliferous plant. Moreover, like the greater celandine, the hemlock grows chiefly not in pastures but in hedgerows and waste places within short range of human habitation, both being dependent on a supply of nitrates in the soil. Heavy responsibility attaches to the apothecary who introduced the plant early last century into Chile, where it has since run wild on the nitrated soil. For then the Victorian poet's advice to avoid the weedy bank will not save the cow from chewing the hemlock rank. Apparently when cultivated the plant may lose its unpleasant smell. The dried seeds, although readily distinguishable to the botanist from anise, may be a danger when, as according to Hegi is the case in Italy they are present to the extent of 10 per cent. in commercial samples of this seed.

CENTENARY OF THE HARVEIAN SOCIETY.

THE Harveian Society of London was constituted on Sept. 15th, 1831, as the Western London Medical Society, and less than a fortnight later changed its name to the Harveian Society "in token of the intent strictly to adhere to the course of observation and induction so successfully pursued by the illustrious discoverer of the circulation of the blood." For a hundred years it has adequately fulfilled the purpose of bringing together medical men of every branch of the profession, and its discussions have always been full, free, and intimate. The meetings were formerly held in a room belonging to the Y.M.C.A. in Titchborne-street, just south of Oxford-terrace, Hyde Park, but since the building was demolished by a German bomb, the society has usually met at the Paddington town hall. Its existence for a long period was somewhat uneventful; a little money was accumulated, a lectureship was founded, and the members dined together once a year and occasionally invited their friends to a conversazione where they could smoke, drink, and listen to music. But the election of the late Dr. Charles Buttar as president in 1909 and the advent of Dr. Godfrey de Bec Turtle as treasurer completely reorganised the society. Members whose subscriptions had been years in arrear were no longer tolerated; new honorary and foreign corresponding Fellows were elected, and there was soon a rush of applicants for the ordinary membership. The position was presently strengthened by the generosity of Mr. G. Buckston Browne, who had served on the council and in 1901 had delivered the Harveian lectures. Mr. Buckston Browne well knew the friendly feeling which had always characterised the society and also recognised that research was one of the objects which had been in the minds of the founders but had never been properly carried out for want of funds. He gave, therefore, enough money to perpetuate a love feast and to endow a prize and medal for original work.

The centenary celebrations are going on during the present week under the direction of Sir Thomas Horder, the president, Dr. de Bec Turtle, the treasurer, Mr. C. P. G. Wakeley and Dr. Ronald Cove-Smith, the hon. secretaries. They began on Thursday with a meeting in the Great Hall at St. Bartholomew's Hospital, when Prince Arthur of Connaught was elected an honorary member, and Dr. Raymond Crawfurd delivered the address printed at the front of our present issue. The Buckston Browne dinner takes place in the Grocers' Hall to-day, Friday, with Prince Arthur as the principal guest. In conclusion, Saturday is being devoted to a pilgrimage to Hempstead, in Essex, where William Harvey and many members of his family are buried.

AN ORTHOPÆDIC CENTRE.

THE Wingfield Orthopædic Hospital at Oxford serves the three counties of Oxfordshire, Buckinghamshire, and Berkshire, and the waiting-list is a long one, despite continuous hard work at high pressure. As the years go on there is a slight change in the character of the work. The severe deformities dating from birth or childhood do not now form so large a proportion of cases. This the report before us ascribes to the spread of education and the supervision of child life. It is the industrial cases that are on the increase; the great demand is now for adult male beds for a type of case for which there is no grant from public bodies. A recent gift by Sir William Morris illustrates the recognition by a great employer of labour of the value of the work to the nation and its industry; many of the patients would never again be able to earn their living but for the treatment which they receive, and 15 years ago they would have become a burden on the taxpayer or on the employer. Now those who cannot return to their former occupation are trained in the workshops so that they can at least earn a living. Sir William Morris, hearing that the hospital would have to be rebuilt and that plans for the replacement of four wards were complete, asked to see the plans and gave a sum of £47,000 to defray the cost of rebuilding the hospital, nurses' quarters, and trainees' hostel. The committee were therefore enabled to concentrate on the one problem of erecting an up-to-date hospital. The new wards will be completed during 1931, and arrangements have been made so that the work can be carried out without reducing the number of patients. During 1932 it is hoped to complete an administration block, including operating-theatre, X ray and massage department, gymnasium, plaster-room, and offices. This generous gift does not, however, reduce the need for donations and subscriptions, since the work of the institution could be very largely extended if accommodation were available for all those waiting for help. The fight against tuberculosis goes on without ceasing, and there is very little decrease in the number of cases, although a majority of them now come at an earlier and more hopeful stage than was usual in the past. The work of the numerous out-patient clinics throughout the area served has increased considerably during the year, and an attempt is being made to obtain a complete list of cripples. Good progress has been made at the special school of the hospital, where there are 68 children of school age and 24 workshop trainees. Two new handicrafts were introduced during the year: barbola work for girls, and cane-seating and chair-weaving for boys. There is still a long waiting-list of youths from all parts of the country desiring admission. News of former trainees proves that properly trained cripples can compete successfully with those who have no disability.

ON Tuesday, June 30th, the Duchess of York, as president of St. Mary's Hospital, will lay the foundation-stones of the new medical school and pathological institute. The proceedings will begin at 3 P.M., and Mr. Stanley Baldwin will give a short address.

PANEL AND CONTRACT PRACTICE

INSURANCE PRACTITIONER AND SICKNESS CLAIMS.

THE insurance practitioner has not only to treat disease but also, to an extent not required in any other field of medical practice, to estimate and advise upon the physical and mental fitness of his patients for remunerative work. His opinion, expressed in a certificate given to the insured person, supports each claim for sickness or disablement benefit, and for evidence of a member's capacity for work the approved society to which he belongs has to look in the first instance to the practitioner from whom the member is receiving medical treatment. From the commencement of national health insurance many practitioners have found it difficult to make an estimate of incapacity, and a comprehensive memorandum (329/I.G.) issued last week deals with (i) the marked and continuous rise in benefit claims observed in recent years; (ii) information obtained through recent investigations respecting the causes of the increase in claims; (iii) the recent introduction of new regulations [1] for dealing with apparent failure to exercise reasonable care in the issue of certificates of incapacity.

SOME ELEMENTARY EXPLANATIONS.

The system, it is recalled, is one of insurance against the loss of earning power through sickness or injury by weekly contributions paid by insured persons and their employers, supplemented in a fixed proportion by the taxpayer. These benefit funds must be applied in providing medical, sickness and disablement, and maternity benefit for all insured persons, as occasion may arise, the contributions having been actuarially calculated to secure the provision of those benefits. Any surplus must equally be used for the provision of additional benefits such as dental or ophthalmic. Protection of the funds against payments to persons not entitled to benefit is afforded in the first instance by the requirement that each claim must be supported by a medical certificate, a second line of protection being afforded by the supervision of claims by approved societies exercised through (i) administrative officers, (ii) sickness visitation, and (iii) reference of doubtful cases to medical referees. Every payment of sickness or disablement benefit to an insured person who is not incapable of work diminishes the funds that would otherwise be available for the benefit of other members of a society. The memorandum notes that the payment to each claimant in a year of a single week's benefit beyond that to which he is properly entitled would have the result of speedily bringing a large proportion of all societies to a state of insolvency. Primarily such illegitimate payments reduce the amounts available for provision of additional benefits. If such payments continue progressively to increase they must ultimately result in a reduction of the statutory benefits or an increase of the contributions requisite to maintain those benefits. Certifying practitioners are asked to realise that they are in a position of responsibility which is abused when they, for any reason, assist any of their patients to obtain, at the expense of their fellow members, benefits to which they are not entitled.

INCREASED SICKNESS PAYMENTS.

There has been in recent years a rise in claims for sickness and disablement benefit of such magnitude as to occasion grave concern among all engaged in the administration of these benefits. Between 1921 and 1927, for instance, the percentage increase in the total number of weeks covered by claims to sickness and disablement benefits was as follows:

—	Sickness benefit.	Disablement benefit.
	Increase per cent.	
Men	41	85
Unmarried women ..	60	98
Married women ..	106	159

and subsequent investigations show that though the claims have fluctuated since 1927, there has been no substantial improvement since that year. In considering possible causes of this increase the most important question is how far it may have been due to an increase in incapacitating sickness and how far to an increase in payments to persons who were not incapable of work. The report of the Government Actuary, published last year (Cmd. 3548), while establishing the continuous rise of claims for both sickness and disablement, brings out the fact that the increase has been in the number of claimants (per cent. of society members) and not in the average duration of claims, which has varied very little. As regards men, the increase in the number of claimants has been mainly in claims of short duration, and among the younger insured persons. The increase has been greater among women than among men, and among married than among single women.

Causes of Increase.

These facts suggest that the increase may have been due not so much, if at all, to an increase in the amount of incapacitating sickness as to economic or other causes not dependent on state of health. If, over so long a period, there had been any corresponding increase of ill-health, there is no apparent reason why it should have manifested itself chiefly in illnesses of short duration, and not to a corresponding extent in cases of serious sickness, causing prolonged incapacity. Secondly, there is no apparent reason why such a change in general health should have affected women to an appreciable degree more than men, married women more than single women, or young people more than old. Thirdly, there is no collateral evidence indicating that the general health of the insured population was appreciably, if any, worse in 1927 than in 1921. On the other hand, reasons readily suggest themselves which (i) might make women more ready to claim than men, married women than single women, and the younger than the older, when in the same state of health, and (ii) might increase the tendency to claim in respect of minor ailments, while not appreciably affecting the tendency to claim in cases of serious illness. But these affect the disposition of insured persons to claim, not the medical justification for issue of certificates of incapacity.

TWO RIDERS.

It has been pointed out by doctors that the observed increase of claims may be partly accounted for by cases of persons who, being genuinely incapable of work, now claim and receive benefit but would not have claimed in the same circumstances ten years

[1] See THE LANCET, Jan. 3rd, p. 53.

ago—the explanation suggested being that it has been due partly to the effects of the present economic depression, as compared with conditions of earlier years, and partly to the greater attention now given by insured persons to considerations of health, through the operation of educational measures of the last ten years, and a change of attitude, for other reasons, towards the claiming of insurance benefits. That there are such cases is common knowledge, but they are not numerous enough to have a substantial effect in producing the observed differences in payments of benefit.

It has been stated on behalf of insurance practitioners that there has been no lowering since 1921 of their standard of medical certification. The memorandum does not seek to challenge this statement, which is in any case difficult of proof or disproof. Assuming the standard of medical certification to have remained the same, or even to have improved, the material question remains whether it has been found adequate to afford the requisite check against an increased tendency of insured persons to claim when they could not properly be regarded as incapable of work. Patients cannot, it is said, be held responsible for the estimates of their own incapacity, except in the rare cases in which they seek to deceive.

REFERENCES TO THE REGIONAL MEDICAL STAFF.

Analysis of all ordinary references to the regional medical staff in England and Wales in the year 1929 shows that 53 per cent. of those referred ceased to draw benefit after being notified of the reference. Of those referred :

(*a*) Over 14 per cent. received a final certificate from the practitioner in attendance—usually on the day on which the notice of reference was received or the following day.

(*b*) There were 19 per cent. who, not having received a final certificate on one of those days, did not attend for examination when summoned, and ceased to draw benefit.

(*c*) Over 19 per cent., having been examined by an examining officer of the department, were found to be in his opinion not incapable of work.

Reasons which do not lend themselves to summary are given for the view that the proportion of persons referred who cease benefit after the practitioner and insured person have received notice of reference is much greater than could be explained by the two considerations of (i) the lapse of time between the date of the last certificate of incapacity issued prior to reference and the date on which, after reference, the insured person ceases to draw benefit, and (ii) legitimate differences of medical opinion respecting those who are examined by examining officers of the regional medical staff.

Further evidence as to the proportion of persons receiving benefit who are not incapacitated for work is derived from consideration of the facts (*a*) that among the four classes of insured persons—men, single women, married women of 45 and under, and married women of 46 and over—the classes which show the greatest increase of claims from 1921 to 1927 are also the classes in which the highest proportion is now found of persons who cease to draw benefit after reference, and (*b*) that the great increase which has occurred during the years 1922 to 1930 in the number of references by societies to the regional medical staff has not been accompanied by the increase which might have been expected in the proportion of those referred who continued to draw benefit.

Comparative study of the results of references of patients of different practitioners is regarded as confirming this general view, since the differences in these results, in respect of large numbers of insured persons and practitioners, are inconsistent with the supposition that they are explicable by the two factors of lapse of time and differences of medical opinion, already mentioned. The divergences are in fact so wide as to point to the conclusion that a considerable number of certificates of incapacity have been issued which were not justified by the condition of the patient at the time of issue.

EXPLANATIONS BY PRACTITIONERS.

During the latter part of 1930 regional medical officers, it is stated, interviewed a number of practitioners in different parts of the country whose results of reference compared unfavourably with those of their colleagues practising in the same area. Some of the explanations given are regarded as confirming impressions gained otherwise of the attitude of a not inconsiderable number of practitioners towards certification.

(*a*) A substantial proportion of the practitioners interviewed stated that they found themselves unable to certify strictly in accordance with their medical judgment for fear of losing patients.

(*b*) Some said that when their patients complained of illness and inability to work they did not feel justified, even in the absence of any signs of disease, in refusing certificates.

(*c*) Some stated that, although they might believe a patient to have recovered and become able to resume work, they preferred to leave the duty of saying so to the examining officer of the department.

(*d*) Finally, it was not infrequently said that, although a patient might legitimately be considered to be not incapable of work, the doctor knew how difficult it would be for that patient to find work under the prevailing conditions of employment, and he allowed himself to be influenced by compassionate considerations in the direction of continuing to issue certificates.

Such statements, offered in explanation of the high proportion of insured persons on the list of these practitioners who when referred ceased benefit, support the general inference that, in cases sufficiently numerous to have an appreciable effect on the benefit funds, certificates are issued which are not in accordance with the doctor's considered opinion of his patient's capacity for work, but are based either on insufficient evidence of incapacity or on considerations irrelevant to the insured person's title to benefit.

Medical Responsibility.

It is nowhere suggested in the memorandum that insurance practitioners as a whole have been responsible for the increase of claims. The strongest evidence adduced respecting the issue of certificates of incapacity to persons who were not incapacitated is that derived from a comparison of the results of the work of different practitioners. In other words, the standard by which some are judged to have failed to exercise proper care in their issue of certificates is that afforded by comparison of the results of their work with that of their colleagues. It is also clear (the memorandum states) that a considerable proportion of errors in certification are not due solely, mainly or even in some instances at all, to such failings as lead also to errors of treatment, but to failure to appreciate the nature and organisation of national health insurance. Whatever the sources of error however, it is evident that payments of benefit to insured persons when not incapable of work are sufficiently widespread to call for special efforts by all concerned with a view to the better protection of the benefit funds.

Complaints, it is stated (Circular A.S. 278), are still received by the central departments to the effect

(*Continued at foot of opposite page.*)

SPECIAL ARTICLES

GENERAL MEDICAL COUNCIL.

SUMMER SESSION, JUNE 2ND–5TH, 1931.

Penal Cases Reported by the Dental Board.

The Case of John Forbes McDonald Connar, registered as of 28, Queen-street, Belfast, dentist 1921, who had appeared before the Board on May 13th, 1931. The following facts were then established by the evidence :—

In September, 1930, Mr. George Brannigan, a member of the Royal Liver Friendly Society (National Health Section), wishing dental treatment, called upon one Walter R. Bamford, a dental mechanic, who gave him advice and told him to get a dental letter from his approved society. A week later Mr. Brannigan called again on Mr. Bamford with the dental letter, on which occasion Mr. Connar was also present and both examined Mr. Brannigan's mouth. Shortly afterwards Mr. Connar and Mr. Bamford made two calls on Mr. Brannigan, and on the first call Mr. Connar gave cocaine and Mr. Bamford extracted some teeth, and on the second occasion they did the same thing, except that Mr. Connar also extracted a tooth. Later, Mr. Bamford called twice on Mr. Brannigan and took impressions for the denture, and Mr. Brannigan signed the dental letter which had already been signed by Mr. Connar. Mr. Connar drew the money, £3 6*s.* 3*d.*, from the approved society. Mr. Connar rented a surgery in Mr. Bamford's premises for which he agreed to pay 2*s.* 6*d.* a week, but in fact paid by supplying Mr. Bamford with dental materials to the amount of about £5. Mr. Connar occupied this surgery from July to December, 1930. Mr. Bamford was not a registered dentist and in respect of the facts above mentioned was prosecuted by the Dental Board at Belfast on March 3rd, 1931, pleaded guilty, and was convicted and fined £10 and 20*s.* costs for practising, and 20*s.* and 20*s.* costs for holding out.

The Board found that Mr. Connar had enabled Mr. Bamford to practise as if he were registered, and recommended that his name be erased.

Mr. Connar did not appear before the Council and was not represented. Mr. Harper read a letter from him. After deliberation in camera, the President announced that the Registrar had been directed to remove Mr. Connar's name from the Register.

The Case of Thomas James Willis, registered as of 120, Abbots-road, Cheam, Surrey, dentist 1921. At the inquiry held on May 12th, 1931, the following facts were established by the evidence :—

That Mrs. Goodwin first became acquainted with the said Thomas James Willis in November, 1929, when he was attending her as her dentist. That the said Thomas James Willis committed adultery with Mrs. Goodwin on June 14th, 1930, and June 15th, 1930, and since. They have lived together at Seven Kings, Essex, and at Cheam, Surrey, and are living together now.

The Board recommended that Mr. Willis's name be erased rom the Register.

Mr. Willis did not appear and was not represented. The Council directed the Registrar to erase his name from the Dentists' Register.

The Case of Ernest Harold Christopher Bailey, registered (on the Colonial list) as of Harvard House, 11, Collins-street East, Melbourne, C1, Cert. of Qual., 1897 (*cum curriculo*), Sec. 54, Medical Act, 1890 (Victoria).

Mr. Bailey, who is in Australia, did not attend in answer to his notice, nor was he represented at the inquiry held on May 12th, 1931, but his solicitor had written a letter asking for an adjournment. He asked "that this matter be allowed to stand over pending an amendment of the Dental Act which is being brought before Parliament by the Dental Board—i.e., of Victoria—to meet the circumstances of this case." As it was a case of conviction in respect of the receiving of stolen goods, the Board were unable to appreciate how any amendment of the Dental Act could affect the question, and decided to hear the case. The following facts were established by the evidence :—

Mr. Bailey was convicted on Nov. 15th, 1928, at the sittings of the Supreme Court of Victoria held at Melbourne of the following felony—namely, of receiving a number of lathes and an engine, the property of Amalgamated Dental Company, knowing the same to have been stolen, and had been released on entering into a bond for £100 to be of good behaviour for a period of three years, and to come up for sentence when called upon. At the trial Mr. Bailey was defended by Mr. Brennan, K.C., and Mr. Barry. The judge on binding him over said : "In the witness-box the most damning evidence against you was given by yourself. . . . I realise that this is not a case of a man who is known to thieves as a receiver of stolen property. I think that justice will be done if I order that you come up for sentence when called upon."

Mr. Bailey's name had been erased from the Dentists Register of Victoria in consequence of the conviction, and the Board recommended its erasure from the Register of this country.

The President read the section of the Act relevant to cases of dentists convicted of felony in any part of His Majesty's dominions. After deliberation in camera the President announced that Mr. Bailey's name would be erased from the Register.

The Case of James Brown Gibson, registered as of 4, Killermont-street, Glasgow, dentist 1921. At the inquiry held by the Board on May 14th, 1931, the following facts were established by the evidence :—

That on July 14th, 1930, at the Sheriff Court, Glasgow, after a plea of guilty, the said James Brown Gibson was convicted of uttering as genuine a dental letter after forging the signature of the patient (one John M. Henderson) thereto and of attempting to obtain by fraud payment thereon from the Scottish Typographical Association and was sentenced to a fine of £10 or 60 days' imprisonment.

Mr. Gibson was not present and was not represented. Mr. Harper read a letter from his solicitor. After deliberation in camera, the President announced that the Council had directed the Registrar to erase his name from the Register.

Penal Cases Adjourned from Previous Sessions.

The Case of James Gordon Bell, M.C., registered as of Ballochmoyle House, Dunfermline, L.R.C.P.Edin. 1914, L.R.C.S. Edin. 1914, L.R.F.P.S. Glasg. 1914, M.B., Ch.B. 1914, U.Edin., who had been summoned to appear before the Council on charges of having been convicted of negligent driving and drunkenness. At the November session, 1930, the facts had been found proved to the satisfaction of the Council, but judgment had been postponed for six months.

Dr. Bell appeared in answer to his notice. He stated that he had been in a sanatorium, and that his health had greatly improved. He proposed to abstain altogether from alcohol in the future, and had prospects of employment from July next. He produced testimonials to his character.

(*Continued from previous page.*)

that improper statements made by local agents and visitors, regarding a member's right to sickness or disablement benefit, embarrass medical practitioners in dealing with insured persons. Societies are enjoined to impress on their agents the need for careful use of words in explaining to insured persons their right to benefits, so that it may be clear to them that certificates can only be issued by a doctor if, in his opinion, the insured person is really incapable of work.

The President announced that the Council had postponed judgment for another 12 months, at the end of which time Dr. Bell would be expected to appear again and to produce testimonials to his character and habits.

The Case of James Rutherford Ratcliffe, registered as of 1, Grange-street, Port Talbot, Glam., M.B., C.M. 1897, U.Glasg., who had been summoned to appear before the Council on charges of conviction for drunkenness. The convictions had been found proved at the November session of the Council, but judgment had been postponed for six months.

Mr. Ratcliffe was accompanied by Mr. A. A. Pereira, instructed by Messrs. Le Brasseur and Oakley, representing the London and Counties Medical Protection Society. He produced two strong testimonials to his character and, through his counsel, repeated his expressions of regret and his promise to abstain from alcohol in the future. After deliberation in camera, the President announced that the Council had not seen fit to direct the erasure of Mr. Ratcliffe's name.

The Case of Simeon Moses Cohen, registered as of 1, Ynyswen-road, Treorchy, Glam., M.R.C.S. Eng. 1919, L.R.C.P. Lond. 1919, who had been summoned to appear before the Council on the following charge:—

"That, being a registered medical practitioner, you on March 15th, 1930, issued the following certificate, viz.:—

'The Surgery, Treorchy.
15.3.1930.

'I certify that W. King is unable to follow his employment since 15/3/30 owing to illness.

S. M. COHEN, Surgeon.'

whereas you had not seen or examined the said W. King on March 15th, 1930, which certificate was misleading and improper."

At the November session the charge had been found proved to the satisfaction of the Council, but judgment had been postponed for six months.

Mr. Cohen appeared, and was accompanied by Mr. Oswald Hempson, of Messrs. Hempsons, representing the Medical Defence Union. He produced testimonials to character, and gave assurances as to his future conduct. After deliberation in camera, the President announced that the Council had decided not to erase Mr. Cohen's name from the Register.

The Case of Percy Bateman, registered as of 423, New Cross-road, London, S.E. 14, L.R.C.P. & S. Edin. 1906, L.R.F.P.S. Glasg. 1906, who had been summoned to appear before the Council on the following charge:—

"That you were on April 2nd, 1930, convicted at the Woolwich Police-court of the following misdemeanour, —namely, of being drunk, and were fined 5*s.* or five days' imprisonment."

The charge had been found proved at the summer session, 1930, but judgment had been postponed for 12 months.

Mr. Bateman appeared and presented testimonials to character. Mrs. Bateman gave evidence that her husband had entirely given up alcohol since entering a home for treatment, and that he was now in practice, doing light work in partnership. He was living in the country, and coming up to town to work daily. Mr. Bateman gave assurances of his intention to abstain from alcohol in future, and explained his present work and habits. After deliberation in camera, the President announced that the Council had decided that Mr. Bateman's name should not be erased from the Register, but that he should be given what the President described as a final chance.

New Penal Cases.

The Case of George Francis Donaldson Perrott, registered as of 46, Belmont-road, Uxbridge, Middlesex, M.R.C.S. Eng. 1928, L.R.C.P. Lond. 1928, who had been summoned to appear before the Council on the following charge:—

"That you were convicted of the following misdemeanours, viz.: (1) On June 16th, 1930, at the Westminster Police-court, of being drunk while in charge of a motor-car, and were fined £25 and £6 6*s.* costs, eight weeks' imprisonment in default, and your licence endorsed and forfeited for 12 months; and (2) on March 7th, 1931, at the Bournemouth Police-court, of being under the influence of drink to such an extent as to be incapable of having proper control of a motor-car of which you were the driver, and were fined £30 and £1 16*s.* 6*d.* witness fees, or three months' imprisonment in default, and were disqualified for holding a licence for 12 months."

Mr. Perrott attended and addressed the Council, promising to abstain from alcohol in future. After deliberation in camera, the President announced that judgment would be postponed for 12 months.

THE NEWELL TREATMENT FOR TUBERCULOSIS.

The Case of Herbert Castlemain Hocken, registered as c/o E. Peet, LL.D., 11, Fetter-lane, E.C. 4, L.S.A. Lond. 1901, who had been summoned to appear before the Council on the following charge:—

"That, being a registered medical practitioner, you have sought to attract to yourself patients and to promote your own professional advantage (1) by being associated with or employed by an individual and/or firm who, to your knowledge, sought to attract patients by advertising and canvassing through the medium of articles appearing in the *Daily Sketch* relating to an alleged cure for tuberculosis known as the 'Newell Treatment'; (2) by accepting persons as patients who to your knowledge had come to you as the direct result of the said articles; (3) by seeking to induce registered medical practitioners to use in the treatment of their patients and to make themselves responsible for a medicament of whose properties and action such practitioners were not fully informed. And that in relation thereto you have been guilty of infamous conduct in a professional respect."

The complainants were the Medical Defence Union.

Mr. Hocken was accompanied by Mr. Harold Bevir, solicitor, who applied for an adjournment on the ground that an application was being made to the High Court to ascertain whether Mr. Hocken was amenable to the jurisdiction of the Council. This application was not acceded to.

Mr. Hempson, representing the Medical Defence Union, stressed the fact that the charge was one of association with a concern that was advertised, and with a medicament of the properties and action of which practitioners were not fully informed. There was no discussion of the value of the treatment. He referred to a series of articles in the *Daily Sketch* in December last and read extracts. The articles extolled the Newell form of treatment for tuberculosis and declared that medical etiquette was preventing public access to it. He recalled the case of Dr. S. Hooker,[1] whose name had been erased for similar conduct, and whose case constituted a clear warning to others. This case was an absolute replica. The articles claimed that the Newell treatment had never been advertised, but they constituted in themselves an advertisement of incalculable value. As evidence that Dr. Hocken was aware of this campaign, and prepared to avail himself of it, Mr. Hempson read a circular letter sent by Dr. Hocken to members of the profession. It set out his attainments in a manner more likely to appeal to the laity than to the profession, and was accompanied by

[1] THE LANCET, 1925, ii., 1192.

testimonials and terms. The fee of two guineas was payable in advance. The technique-directions were signed by the unqualified Mr. Newell, and not by Dr. Hocken. A second document, signed by O. A. Newell, constituted a reply to letters written in consequence of the *Daily Sketch* appeal. It concluded that patients not under a doctor or those who experienced any difficulty in obtaining the treatment could be arranged for in London. When Mr. Whitwell had written to Dr. Hocken, posing as a patient who had seen the articles in the *Daily Sketch*, he had received a reply making an appointment. At the interview he had been welcomed as a patient coming through the *Daily Sketch*, and had been offered treatment at one guinea an injection, and had been given documents testifying to the efficacy of the treatment. The telephone number was the same as that of Mr. Newell, who was described in the telephone directory as "Dr." O. A. Newell.

Dr. James Neal testified to the communications he had received from members of the Medical Defence Union about the Newell treatment, the *Daily Sketch* articles, and pamphlets about it. He gave it as his opinion that the alleged "full disclosure" of the constituents of the Newell treatment was insufficient to justify a medical man in administering it. In cross-examination by Mr. Bevir, he said that he thought it would be gravely unprofessional of any doctor to use it without further knowledge. He had drawn the attention of the Medical Defence Union to the matter on the third Thursday in February. He had made no personal investigation, and had not sent any warning to Dr. Hocken. He agreed that Dr. Hocken was not mentioned in the *Daily Sketch* articles by name, but said that they implied that some doctor would treat patients. He could not regard the articles as a poor form of advertisement, even if no name, address, photograph, or interview appeared. The effect of the articles was to induce sufferers from tuberculosis to apply to the laboratory for treatment. The medical superintendent of the laboratory was Dr. Hocken, and Dr. Hocken replied to letters addressed there. He could not produce witnesses—other than Mr. Whitwell—who had been to Dr. Hocken as a result of the articles. He was not accusing Dr. Hocken of being concerned in inspiring the articles, but it was obvious to him that the respondent had derived benefit from them. They were all publicity for the Newell alleged treatment for tuberculosis.

Mr. F. D. Whitwell, clerk to Messrs. Hempsons, testified to his correspondence and interview with Dr. Hocken. Dr. Hocken had handed him a circular letter and a pamphlet on which Dr. Hocken was described as medical superintendent. He had been told that a month's supply of treatment would cost two guineas, and that he would need two injections a week for some weeks, according to progress, each injection to cost £1. Dr. Hocken had made no examination of him to see whether or not he was a suitable patient, nor had he inquired the name of witness's doctor.

Cross-examined by Mr. Bevir, he said that Dr. Hocken had read to him the names of three patients whom he had treated. He had not made any note of the names. He paid no fee at that interview, but was told to come again on the next Monday with £3 2*s*.

In reply to the President, he repeated that Dr. Hocken had made no examination of any kind whatever, but that he had assumed that he would be examined on the Monday, when he returned with the fee.

Mr. Bevir characterised the evidence of the complainants as flimsy and third- or fourth-hand, consisting of a bundle of newspapers. The charge might have been against the *Daily Sketch* or Mr. Newell, but the articles and documents hardly involved Dr. Hocken at all. Stronger evidence was required for a sentence involving professional ruin. The only relevant evidence was that Dr. Hocken's name had appeared as medical superintendent. Desire for gain or payment could not be alleged against him. Mr. Whitwell was a spurious patient, and an agent provocateur; the evidence of such persons was rejected in English courts if any other evidence could be obtained. Even that witness had not succeeded in obtaining evidence that Dr. Hocken was receiving fees, or had ever sought to attract patients. He had advised Dr. Hocken that there was no case for him to answer, and that it was therefore unnecessary for him to go into the box and explain the circumstances of his practice. Dr. Hocken was an apothecary, and an apothecary was entitled by law to sell medicines.

The Council found the first two charges proved and the third not proved, and directed that Mr. Hocken's name be erased from the Register.

PARTNERSHIP WITH A DENTIST.

The Case of Robert Miller, registered as of 77, Constitution-road, Dundee, M.B., C.M., 1889, U.Glasg., summoned to appear before the Council on the following charge:—

(1) That, being a registered medical practitioner, and as such to your knowledge not entitled to receive fees or payment from approved societies for dental treatment to members of such approved societies, you entered into partnership with one R. Whyte, L.D.S., of 9, King-street, Dundee, a registered dentist, for the purpose of using his name and thereby obtaining fees or a proportion of the fees payable by approved societies, in accordance with schemes sanctioned by the Ministry of Health under the National Health Insurance Act, 1924, for dental treatment, to registered dentists only;

(2) That in furtherance of such partnership and purpose you caused the signature of R. Whyte to be affixed to a dental letter by means of a rubber stamp in respect of one Mrs. May A. Lyons, a patient of yours and a member of The Dunkeld Diocesan Catholic Insurance Society, being an approved society, thereby falsely and in breach of the conditions of the scheme for dental benefit representing to such society that the said R. Whyte had personally examined the said Mrs. Lyons and made an estimate for her dental treatment, when in fact, as you well knew, the said R. Whyte had not personally seen or examined the said Mrs. Lyons.

And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect.

Dr. Miller appeared, accompanied by Mr. A. A. Pereira, instructed by Messrs. Le Brasseur and Oakley. The complainants, the Dental Benefit Council, were represented by Mr. J. Scott Henderson, instructed by Messrs. Ponsford and Devenish.

Mr. Henderson, in opening the case, explained that Dr. Miller, though as a registered medical practitioner entitled to practise dentistry, had no qualification that would entitle him to have his name on the Dental Register. Dental benefit was an "additional benefit" under the National Health Insurance Act, 1924. The Department of Health for Scotland had sanctioned this additional benefit in the case, among other approved societies, of the Dunkeld Diocesan. One of the conditions was that the treatment must be given by a registered dentist. This fact might, he said, supply a motive for the alleged offence. Under the partnership agreement between Dr. Miller and Mr. Whyte, Dr. Miller received two-thirds of the fees paid to Mr. Whyte. The treatment of Mrs. Lyons was estimated in the "dental letter" to be £6 5*s*., of which the society were to contribute £3 5*s*. When a panel patient had come with a dental letter,

Dr. Miller had been in the habit of examining the patient himself to see what treatment was required; he had filled up the letter, stamped it with Mr. Whyte's name, and sent it in to the society, and when it came back, had handed it over to Mr. Whyte at 9, King-street, and in due course had sent the patient there for treatment. This estimation and report on behalf of another practitioner was, Mr. Henderson submitted, improper conduct. Mr. Whyte had never seen Mrs. Lyons, and Dr. Miller had claimed 2*s*. 6*d*. from the society as from Mr. Whyte, of 77, Constitution-road, his own address.

Mr. Edmund William Handcock, Secretary in Scotland of the Dental Benefit Council, formally testified to the facts as far as they had come within his knowledge.

Mr. Robert Whyte stated that Dr. Miller had estimated straightforward cases but had sent difficult ones, or patients who had especially desired it, to him. He had found Mrs. Lyons's letter in a drawer. Dr. Miller had said that this patient would probably not return for treatment, so he had signed the form G and given it to Dr. Miller.

Cross-examined, he admitted that he had known that Dr. Miller had used his stamp in cases which he (witness) had not examined. He had asked respondent not to do so, but he had insisted that he was entitled to, and witness had taken no steps because he was dependent on Dr. Miller for everything. Witness admitted that the question of Dr. Miller's procedure had only been raised by small local societies, and not by any large society. He had been licensed in dentistry two or three months before taking up his work with Dr. Miller. The bulk of his patients had been insurance patients coming to him through Dr. Miller. He had never been in Dundee before.

In answer to the Legal Assessor, he said that the cheques from the approved society were made out in his name, endorsed by him, and handed to Dr. Miller for his private account. Witness received one-third of those fees monthly, under their agreement. The patients were Dr. Miller's patients sent to witness for treatment. The forms headed "This should be handed to any registered dentist," were never handed to him by Dr. Miller's patients but went to Dr. Miller.

Mr. H. S. Herbert gave evidence describing the procedure of the Dental Benefit Council.

Dr. Miller, in the witness-box, said that he had practised in Dundee since qualifying in 1889 and had always practised dentistry. He could have qualified under the Dental Act, 1921, if he had been carrying on dentistry as his principal means of livelihood. He had attended insured patients requiring dental treatment until 1926, when his attention had been drawn to the fact that the schemes for dental benefit approved by the Minister stated that treatment must be obtained from a registered dentist. He had then written to various authorities for a ruling and had discontinued dental treatment. When he had entered into partnership with Mr. Whyte he had assumed that it would be in order for him to examine a patient and fill in an estimate, so long as the actual work in the mouth was carried out by his partner. He had a bona fide belief that he was entitled to act as he had done. The partnership had never been concealed. The two names had appeared on the brass plate and on the account forms, and every local agent of the approved societies was aware of it. He had assumed that, having a registered dental partner, he could act for him. The papers would go back, when filled in, to the central society, which would not know that the patient had been examined by him and not by the registered dentist whose name was stamped on them. He had never had a stamp of his own marked "surgeon dentist" because he thought it fairer for the junior partner to be on his own.

In reply to the President he said Mr. Whyte's stamp had been made soon after Mr. Whyte's appointment, he had had it made because Mr. Whyte's name was on the Dental Register, and neither his own name nor that of the partnership would pass on these documents. He would never sign another man's name, but did not regard it as wrong to use his stamp, even to the statement: "I have examined . . ." The stamp belonged to his partner, who—if he did not know at the time—knew afterwards. One object of the partnership had certainly been that he might claim dental benefits to which he was not entitled on his own qualifications.

Mr. Pereira said that Dr. Miller had believed himself entitled to examine the mouths of patients, and had not done any dental work himself. The signature was one of "authority by inference," since Mr. Whyte had known that his stamp was used. Dr. Miller had honestly thought his action correct.

Mr. Henderson maintained that the use of the rubber stamp in this way was likely to deceive the companies.

After deliberation in camera, the President announced that the Council had found the charges proved, but in view of Dr. Miller's age and long experience of dental work before the new Act, and the possibility of bona fide misunderstanding, they had decided not to direct the Registrar to erase his name from the Register.

CHARGES OF IMPROPER CERTIFICATION.

The Case of William Allan, registered as of 9, Margaret-street, Greenock, M.B., Ch.M., 1895, M.D. Glasg., 1898, who had been summoned to attend before the Council on the following charge:—

That being a registered medical practitioner you, on April 9th, 1929, and on various dates subsequent thereto during the period to August 29th, 1930, signed and issued to Duncan McAlpine, an insured person on your list, 42 certificates required for national health insurance purposes, stating that you had examined him on the several dates stated thereon, whereas you had not examined the said insured person on any of such dates or at all during the said period, which certificates were untrue, misleading, or improper.

And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect.

The complainants were the Department of Health for Scotland.

Dr. Allan attended and admitted the facts as alleged. Mr. D. Gerrand, representing the Department of Health, laid the facts before the Council and handed in the certificates in question. Dr. Allan explained that he had known the patient for about 20 years; he was being treated for a disfiguring tuberculide which made him extremely sensitive. He was genuinely ill and Dr. Allan had wished to save him the mental anguish of attending the surgery for certificates.

After a long deliberation in camera the President announced that the Council had found the facts proved, and regarded the matter as one deserving grave censure. They were, however, prepared to believe that Dr. Allan had acted from an error of judgment and a mistaken view of duty, and dismissed the case.

The Case of Thomas Joseph McKaigney, registered as of 24, Kelvinside-gardens, Glasgow, L.R.C.P. & S. Edin., 1902, L.R.F.P.S. Glasg., 1902, who had been

summoned to attend before the Council on the following charge :—

That being a registered medical practitioner you, by yourself or your deputies, on August 17th, 24th, and 31st, 1929, and Sept. 7th, 14th, 21st, and 28th, 1929, issued to Annie Kelly, an insured person on your list, certificates required for national health insurance purposes certifying that the said insured person had been examined on those dates, whereas the said insured person had not been examined on any of such dates or at all during the said period, which certificates were untrue, misleading, or improper.

And that in relation to the facts so alleged you have been guilty of infamous or disgraceful conduct in a professional respect.

The complainants were the Department of Health for Scotland.

Dr. McKaigney was accompanied by Mr. Oswald Hempson, solicitor, representing the Medical Defence Union. Mr. D. Gerrand, for the Scottish Department of Health, handed in the certificates referred to, and read the findings of the departmental committee.

Mr. Hempson submitted that there was no evidence for the Council to consider. Mr. Gerrand said that his instructions were merely to lay the documents before the Council. Dr. McKaigney had had the opportunity of defending himself before the committee but had not done so.

Mr. Harper, reading from the report of the subcommittee, stated that Annie Kelly had applied for benefit on another occasion and had been told that she was not entitled to it because she had previously drawn it while at work. It had then been discovered that her aunt, Mrs. Griffin, had been drawing her benefit money in her place on certificates obtained from respondent; for this offence she had been imprisoned.

The certificates were exhibited to the Council. They stated the causes of incapacity as chlorosis and anæmia, and a later one as chlorosis and gastritis.

Mr. Hempson objected that the report of this subcommittee, with the statements of witnesses who had not been cross-examined, could not constitute evidence, but the President ruled that the Council could consider it.

Mr. Hempson then called Dr. McKaigney as a witness on his own behalf, and he testified that he could only recollect having seen Annie Kelly the first time, but that his invariable practice was never to give a certificate without examination.

Dr. Bone inquired why the panel cards, which constituted a permanent record, had not been produced by the Department.

Mr. Hempson addressed the Council, again pointing out the inadequacy of the evidence, and submitted evidence of his client's good character.

After deliberation in camera, the President announced that the Council had not found the charges proved to their satisfaction.

The Case of Archibald Carmichael Young, registered as of 9, Eyre-place, Edinburgh, L.R.C.P. and S. Edin., 1925, L.R.F.P.S. Glasg., 1917, who had been summoned to attend before the Council on the following charge :—

(1) That being a registered medical practitioner you, on April 8th, May 8th, and June 7th, 1930, signed and issued to Donald Chisholm, an insured person on your list, certificates required for national health insurance purposes, stating that you had examined him on the several dates stated thereon, whereas you had not examined the said insured person on any of such dates, which certificates were untrue, misleading, or improper.

(2) That being a registered medical practitioner you, on July 8th, August 8th, and Sept. 2nd, 1930, directed or permitted to be issued to the said Donald Chisholm similar certificates by your assistant, J. S. Miller, whereas neither you nor the said J. S. Miller had examined the said insured person on any of such dates, which certificates were untrue, misleading, or improper.

And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect.

The complainants were the Department of Health for Scotland.

Dr. Young was accompanied by Mr. S. Henn Collins, instructed by Messrs. McKenna and Co. Mr. Gerrand, representing the Department of Health, produced the certificates in question, the report of the subcommittee, and a letter from the respondent.

Mr. Harper, reading the report of the subcommittee, stated that in this case the certificates had been handed regularly to a messenger who called at the surgery every month. The respondent admitted giving certificates without seeing the patient. He had gone to the patient's house during the material period, but had failed to obtain admission. The patient had been seen on some date in June and again in October and November. Dr. Young's letter to the Department of Health stated that the patient had been incurable, suffering from encephalitis lethargica. The patient had refused to admit respondent to the house although respondent had made repeated and regular efforts to see him, and had tried to obtain admission for the patient into two hospitals, without success.

Mr. Henn Collins admitted, for respondent, that he had signed certificates without actually seeing the patient, but contended that, under the circumstances, they had not been untrue, misleading, or improper, and that their issue did not amount to infamous conduct.

After deliberation in camera the President said that the Council had found the facts in the first charge against the respondent proved; that they regarded the offence as one worthy of grave censure, but that, in view of the circumstances—although these did not constitute an excuse for respondent's laxity—they considered that he had acted from a mistaken view of his functions and an error of judgment due to good nature. They therefore did not find him guilty of infamous conduct, and dismissed the case.

A FORGED DOCUMENT.

The Case of Thomas Benjamin Brandon, registered on the Colonial List as of 605, Stretford-road, Stretford, Manchester, M.C.P. and S. Manitoba, 1915, M.D. U. Manitoba, 1917, who had been summoned to appear before the Council on the following charge :—

That at the Manchester Assizes commencing on Feb. 16th, 1931, you were convicted of unlawfully uttering a forged public document, and were sentenced to three months' imprisonment in the second division.

Dr. Brandon did not appear and was not represented.

Mr. Harper explained the circumstances of the case and read extracts from the newspaper reports of the trial. Respondent had desired to stand for Parliament and had handed in nomination papers bearing forged signatures. His moral character had been severely impugned by credible witnesses.

The Council found the charges proved, and directed that Dr. Brandon's name be erased from the Register.

This concluded the hearing of disciplinary cases, the case against John Roberts Pate, registered as of 37, Beaumont-street, Oxford, M.B., Ch.B. 1915, U. Glasg., having been dismissed as the charge against him was not proved to the satisfaction of the Council.

A DRESSMAKER'S WARD.—The dressmakers in the neighbourhood of the Middlesex Hospital purpose building a ward in that institution. Towards the £25,000, which the ward will cost, £5000 has already been raised.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

MENTAL EFFICIENCY AND DEFICIENCY.

AT a recent Glasgow conference of the Scottish Association for Mental Welfare, Dr. Parlane Kinloch, chief medical officer of the Department of Health for Scotland, pleaded for a return to the Greek ideal of healthy youth. He would like to see a great experiment made in schools with two sets of children coming from the same social circumstances. In one of them the children would receive instruction for an hour at a time, alternating with an hour's physical exercise and outdoor recreation. He would not be surprised if in four or five years these children who had rhythm in their school lives between mental and physical work, would be more efficient mentally than the children who had been confined to the steady six hours of educational work.

Dr. R. D. Clarkson, of Larbert, maintained that injury to the brain at birth is a common cause of mental defect. Many of them could be prevented if antenatal care was recognised as always necessary, and if the standard of education of medical men and midwives was raised. He expressed his well-known doubts about the limits of heredity in mental defect. Dr. R. M. Marshall said that in the ascertainment of imbeciles the test of inability to be taught to manage themselves or their own affairs was not very satisfactory, and that in the higher grades of the condition the crucial test of a trial in the special classes for at least a year was always indicated. In the ascertainment of feeble-minded persons the criterion should be incapacity to receive proper benefit from instruction in the ordinary classes; at school age the question of social adaptability should only be considered when it was raised by the conduct of the individual.

Dr. David Yellowlees said he took it to be one of the objects of the association to create a public conscience in matters of mental diet, especially that offered to children whose selective powers were not yet developed. They could hardly feel complacent if they considered the quality of the cheap reading matter and films provided for children at the present time. Much of that material tended to present to immature minds aspects of life and ideas about life which were terribly false, one-sided, and cheap.

MENTAL DISEASES RESEARCH.

At a meeting of the University Court of the University of Edinburgh, it was reported that Dr. Walter Smith Kay, who died on April 22nd, had bequeathed to the University the sum of £5000 subject to Government duty, the annual income to be applied towards aiding research in mental diseases and psychiatry in such manner as the Court, together with the Professor of Psychiatry, shall think fit.

NURSERY SCHOOLS.

There is, I gather, a good deal of discord between the education committees and the public health committees of the new local authorities about the provision and the superintendence of nursery schools. Under the Notification of Births Acts, health authorities have power to set up such schools, including kindergartens, toddlers' playgrounds, &c., and the Education Act, 1918, empowers the education authorities to provide nursery schools. The powers of the two Acts are leading to some confusion. There is a general wish that the health of children from birth to the end of their school age should be under a united direction; but, obviously, the members of the former education authorities, who have been largely coöpted on to the new education committees, find difficulty in agreeing either with the town council or with the county council members. It will be several years before the counties master their new duties and, meanwhile, as the tendency will be to economise, we may expect a considerable reaction in the work of school health administration. In the south of Scotland, however, there have, as yet, been few indications of such a reaction, and ultimately the unification of the system will bear fruit.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

A SWEEPSTAKE WRANGLE.

A SOMEWHAT sharp debate took place in the Dáil last week over the distribution of the proceeds of future sweepstakes between the voluntary hospitals and the county (rate-supported) hospitals. The Minister had proposed that a quarter of the available funds should be allocated to the county hospitals, and an amendment had been moved to increase the proportion to half. Much of the debate centred about the irrelevant question of the respective merits of the two classes of institution. It should be clear to anyone who gives thought to the subject that the county hospitals and the voluntary hospitals should work in coöperation and not in rivalry. A certain improvement in the county hospitals in recent years has, however, led many people to think that these institutions can supply a complete hospital service to the country. The staff of a county hospital consists in most cases of one or two men—a surgeon, or a surgeon and a physician, who also acts as anæsthetist. The surgeon may be provided with an X ray apparatus, but he must be his own expert. He is not provided with any pathological assistance, nor has he the help—except in a few institutions—of any further specialists. It is clear that such a staff cannot deal with more than a limited class of case, and in a small country town an all-round staff is impossible. There will always, therefore, be a considerable number of cases which will require the investigation of a larger staff and the help of a fuller equipment than the county hospitals can provide. Such cases must find their way to the voluntary hospitals. A recognition of this simple fact would have prevented much of the futile discussion in last week's debate. It is not altogether the fault of the deputies that the fact is ignored. The Department of Local Government and Public Health has done nothing to advise local authorities as to the kind of cases that are best treated in the county hospitals, and the kind of cases that should be sent to the voluntary hospitals. The Commission on the poor-law system from which one might have expected guidance as the result of its investigations and deliberations a few years ago, evaded this question altogether. Once the proper function of each class of institution is recognised, much irrelevant but harmful criticism will cease. The proportion of distribution suggested by the Minister was carried on a division.

REFORMS IN LOCAL GOVERNMENT.

In the Senate last week Mr. Mulcahy, Minister for Local Government and Public Health, forecast certain reforms in local government for which he intends shortly to introduce legislation. At present local administration of health affairs is in the hands of

county boards of health, bodies nominated by the county councils. This has led to a duplication of activities which is to be got rid of by the abolition of the boards of health. When boards of health were first suggested it was intended that they should contain not only representatives of the rating authority, but also members of the medical and nursing profession and other persons with an expert knowledge of health affairs. As they have existed, however, they have been merely subcommittees of the county councils, and there has been no justification for their separate existence. The other reform promised by the Minister is in the direction of managerial control of local administration. He intends to endow the secretary of the county council, or other similar official, with certain powers as a manager of the affairs of his council.

DUBLIN MEETING OF BRITISH MEDICAL ASSOCIATION.

The Leinster Branch of the B.M.A. has invited Prof. T. G. Moorhead, its present president, to accept nomination as president of the Association on the occasion of its meeting in Dublin in 1933. The nomination has to be confirmed by the Council and by the Representative Meeting.

Dr. Moorhead has had a distinguished career as a physician in Dublin. A graduate of Dublin University, he was appointed visiting physician to the Royal City of Dublin Hospital at an early age. He held for a short time the chair of medicine in the school of the Royal College of Surgeons in Ireland. In 1921 he was elected King's professor of materia medica and pharmacy in the School of Physic, Trinity College, and became a physician to Sir Patrick Dun's Hospital. In 1925 he vacated the chair of materia medica to become Regius professor of physic in the University of Dublin. During the war Dr. Moorhead served in the Royal Army Medical Corps in Egypt and France, holding the rank of lieutenant-colonel. He is at present president of the Royal College of Physicians of Ireland, and president of the Royal Academy of Medicine in Ireland. Prof. Moorhead may count on the loyal support of the profession and public of Dublin in his work as President of the British Medical Association.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

ARTIFICIAL PNEUMOTHORAX IN ABSCESS OF THE LUNG.

A RECENT discussion at the Société Médicale des Hôpitaux on the above subject demonstrated once again how, in medicine in general, and therapeutics in particular, black is white and white is black—according to the optical slants of different observers. André Jacquelin, in support of his advocacy of this treatment, referred to eight cases in all of which there was complete recovery and no relapse, although the observation period often ran into several years. He insisted that collapse therapy, instituted early and skilfully, is not only easy and almost painless, but also entails no risk of shock or other danger. Whereat, in the ensuing discussion, no less an authority than Sergent protested that all he had achieved from this treatment was disappointment. He had found its efficacy far from certain, and its freedom from danger a delusion since it may lead to infection of the pleural cavity with resulting pyopneumothorax. So when he did not find an abscess of the lung healing spontaneously in a month or two, he was in favour of operative interference. Rist's contribution to the debate swung the pendulum back to the point where Jacquelin had left it; Rist had seen rapid and complete recovery from abscesses of the lung after the induction of a pneumothorax which, to be effective, should, in his opinion, be induced quite early, before adhesions had had time to form. Certain other speakers followed Rist's lead in support of Jacquelin, while Bezançon raised an interesting collateral point; the patient in whom a pneumothorax has been induced is a comparatively difficult subject for operation should the surgeon have to intervene at a later stage. This consideration should be taken into account when the competing merits of an artificial pneumothorax and a more radical operation are weighed in the balance.

COLLECTION OF POLIOMYELITIS CONVALESCENT SERUM.

Not long ago the Academy of Medicine appointed a commission to study the suggestion that a stock of the serum of convalescents should be provided in anticipation of a return of acute anterior poliomyelitis in epidemic dimensions. A member of this commission, Netter, summarised the situation at a recent meeting of the Academy, presenting the conclusions to which his commission had come. It asks the Academy to endorse the two following recommendations: (1) That in anticipation of the possibility of the reappearance of this disease it would be desirable to put a sufficient supply of the serum of convalescents at the service of the medical profession. (2) That this serum should be obtained under conditions which would guarantee its potency and harmlessness. Although the conditions under which the serum is prepared would eliminate the risks of syphilis and tuberculosis, the commission is in favour of donors undergoing the Wassermann test in every case. It thinks that, with the help of hospitals, doctors, and instrument makers, and publicity in the press, a sufficient number of donors will be found for the proposed pool of serum.

UNITED STATES OF AMERICA.

(FROM AN OCCASIONAL CORRESPONDENT.)

BIOMETRIC PROGNOSIS.

SOME years ago the Association of Life Insurance Directors, interested by the then recent tables of Prof. Georges Dreyer of Oxford, asked the statistical bureau to investigate the prognostic value of the Dreyer standard and to investigate further the relation of weight to longevity. The material investigated consists of 200,000 males, insured between 1887 and 1908, whose histories have been followed until 1921 or prior to termination of the policy. Dr. Louis Dublin now reports the result of this research. It is found that overweight is dangerous and that the danger increases consistently with the degree of overweight. The relation between age and weight is also important. After age 45 the excess mortality amongst overweights becomes most important. Those who are more than 25 per cent. overweight have a mortality-rate double the normal. In youth it is those who are markedly underweight who run the graver risk. Dr. Dreyer had claimed that well-organised overweights—those with long trunks, large chest girths, and ample vital capacity—are as good risks as those of average weight and build. Dr. Dublin's study showed, on the other hand, that those overweights who are short or medium in height are a better constituted class than those who are tall. Moreover, again in contradiction

to Dreyer's teaching, the short overweights have a better chance when the trunk is relatively short. But in the tall overweights the conclusion is different: those with a relatively long trunk had a much lower mortality.

ANALYSIS OF SUICIDES IN NEW YORK STATE.

I have already indicated that the only observable ill-effect of the economic depression upon the death-rate in this country is seen in an increase of the suicide-rate. This conclusion, based on the experience of 1930, is confirmed in that of the first quarter of 1931. The New York State statisticians have in the meantime made an analytical study of their suicide-rate in the year 1930. They find that the increase in New York City is much greater than in the rest of the State (148 to 62), and that the increase has been mainly among men, the number rising from 1563 in 1929 to 1760 in 1930. Among women the corresponding increase was from 574 to 585. It will be observed that three times as many men as women are suicidal. This excess is found especially in the older age-groups. Over 80 years there are seven male suicides, and one female. In the younger age-groups the ratio is only 1·5 to 1.

The method most commonly selected up to 70 years of age was by poisonous gas; above that age hanging. Among men the most prevalent methods were: poisonous gas, 30 per cent.; hanging, 24 per cent.; firearms, 19 per cent. Among women we find: poisonous gas, 39 per cent.; corrosive substances, 17 per cent.; jumping from high places, 15 per cent.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE.

Surg. Comdr. C. Ross is placed on the Retd. List with the rank of Surg. Capt.

ROYAL ARMY MEDICAL CORPS.

Lt.-Col. Temp. Col. J. D. Richmond from R.A.M.C. to be Col.

Maj. (temp. Lt.-Col.) M. O. Wilson, Maj. and Bt. Lt.-Col. (temp. Lt.-Col.) T. H. Scott, and Maj. (temp. Lt.-Col.) G. F. Rudkin to be Lt.-Cols.

Maj. A. C. Elliott to be temp. Lt.-Col.

R. C. Langford to be Lt. (on prob.), and is secd. under the provisions of Art. 213, Royal Warrant for Pay and Promotion.

ARMY RESERVE OF OFFICERS.

Capt. E. G. Foley ceases to belong to the Res. of Off. on account of ill-health.

TERRITORIAL ARMY.

Lts. R. Rutherford and C. C. Ryan to be Capts.

R. H. Robinson (late Cadet Serjt., Durham Univ. Contgt., Sen. Div., O.T.C.) to be Lt.

INDIAN MEDICAL SERVICE.

Lt.-Cols. to be Cols.: Bt. Col. R. McCarrison and W. R. J. Scroggie.

Lt.-Col. J. Cunningham retires.

DEATHS IN THE SERVICES.

Col. Sir ROBERT HAMMILL FIRTH, late R.A.M.C., who died on June 6th at the age of 72, received his medical education at University College, London, and qualified in 1879 with the M.R.C.S. Eng. In 1881 he obtained the L.R.C.P. Edin., and in the following year was elected F.R.C.S. A year later he became a surgeon in the Medical Department of the Army, and was with the Hazara Expedition of 1888 and with the Tirah Expedition of 1897–98. He was also employed in the late European War, being three times mentioned in despatches, created C.B. in 1918, and K.B.E in 1919. From 1900 to 1906 he was professor of military hygiene in the Royal Army Medical College, and had held the posts of assistant professor of hygiene at Netley and officer in charge of the School of Army Sanitation at Aldershot. He was the author (with Col. Notter) of the "Theory and Practice of Hygiene"; he was also the author of "Practical Domestic Hygiene" and "Military Hygiene," and contributed many articles to the *Journal of the Royal Army Medical Corps* on scientific subjects and medical history.

Inspector General HENRY CHARLES WOODS died at Alverstoke, in his ninety-first year, on June 3rd. He celebrated his ninetieth birthday on May 20th last, when he received a telegram of congratulation from the King. A graduate of St. Andrews, he entered the Royal Navy as surgeon in 1862, and in 1875 served in the *Serapis* during the tour of King Edward, then Prince of Wales, to India. He was promoted to staff surgeon in 1876, and two years later became medical officer of the Royal yacht. *Osborn*. In 1884 he was promoted to fleet surgeon, in 1895 deputy inspector general, and in 1895 inspector general of hospitals and fleets. He retired in 1901, when he received the C.V.O., and in the following year was made a C.B. Inspector General Woods was an honorary physician to the King.

COLONIAL APPOINTMENTS.

Dr. E. E. Henderson has been appointed Acting Professor of Anatomy in the College of Medicine at Singapore, and Dr. R. N. Brandwood has been made Government Medical Officer in the Gilbert and Ellice Islands, Western Pacific. Dr. G. B. Leicester, Assistant Medical Officer, Mental Hospital, Singapore, has been promoted to Deputy Medical Officer, and Dr. L. C. Wijesinghe, Medical Officer, Grade 1, Ceylon, has been promoted to Provincial Surgeon, Ceylon.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED MAY 30TH, 1931.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 107; scarlet fever, 1315; diphtheria, 718; enteric fever, 35; pneumonia, 777; puerperal fever, 55; puerperal pyrexia, 95; cerebro-spinal fever, 48; acute poliomyelitis, 6; encephalitis lethargica, 11; relapsing fever, 1; dysentery, 17; ophthalmia neonatorum, 86. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on June 2nd–3rd was as follows:—Small-pox, 149 under treatment, 7 under observation (last week 160 and 8 respectively); scarlet fever, 1187; diphtheria, 1409; enteric fever, 10; measles, 169; whooping-cough, 419; puerperal fever, 33 (plus 13 babies); encephalitis lethargica, 193; "other diseases," 149. At St. Margaret's Hospital there were 21 babies (plus 9 mothers) with ophthalmia neonatorum.

Deaths.—In the aggregate of great towns, including London, there was no death from small-pox nor enteric fever, 39 (1) from measles, 5 (2) from scarlet fever, 26 (7) from whooping-cough, 22 (4) from diphtheria, 41 (10) from diarrhœa and enteritis under two years, and 46 (6) from influenza. The figures in parentheses are those for London itself.

Only one death from meningococcal meningitis (aged 15–25) occurred in London. Seven deaths from measles were reported from South Shields, 5 each from Liverpool, Leeds, and Sunderland. Liverpool reported 4 deaths from whooping-cough, Newcastle-on-Tyne 3. Diphtheria claimed 5 victims at Liverpool. Manchester reported 6 deaths from influenza, Bristol 5, Rhondda 3.

The number of stillbirths notified during the week was 234 (corresponding to a rate of 40 per 1000 births), including 42 in London.

DEATH CLASSIFIED TO SMALL-POX.

THE death provisionally assigned to Market Bosworth R.D. was that of a man, aged 65, who was taken ill on April 30th and was diagnosed on May 1st as suffering from pneumonia. A rash appeared on May 7th, and he was admitted to the small-pox hospital the following day. Dr. Hart, medical officer at the hospital, reported that "on admission the patient was seriously ill with lobar pneumonia and that the variola rash was well marked. Owing to his age and debilitated condition the prognosis was not good. During the two next days he appeared to be holding his own, but on May 11th the pneumonia spread to the right upper lobe, his condition became worse, and he died early on May 13th." Dr. Hart further states that, in his opinion, while the small-pox lowered the patient's powers of resistance, it was a severe case of pneumonia which would have probably ended fatally without the complication of small-pox.

CORRESPONDENCE

SURGICAL TREATMENT OF DUODENAL ULCER.

To the Editor of THE LANCET.

SIR,—I must express profound disagreement with the conclusions on the surgical treatment of chronic duodenal ulcer set forth by my friend, Prof. C. A. Pannett, in your last issue (p. 1235). Prof. Pannett advocates resection of the ulcer and of a portion of the stomach, a portion that must be of considerable size in order to avoid recurrence of ulceration. I believe this advice to be unsound, dangerous, and misleading. The experience upon which it is based, it is admitted, is really too small; and if I challenge the wisdom of Prof. Pannett's opinion and practice it is because an experience almost twenty times as large as his has led me to conclusions directly in conflict with those he has drawn. Prof. Pannett chiefly discusses the relative merits of two operations only, of gastro-enterostomy and of resection. He omits consideration of gastro-duodenostomy, which, in appropriate cases, and in skilled hands, is the equal of any other method.

The mortality of gastro-enterostomy (8·5 per cent.) in his hands does not, of course, represent the risk of this operation and must be regarded as quite accidental. If patients are adequately prepared for operation by methods I have fully described elsewhere, neither this operation, nor resection for simple disease, should have a mortality higher than, if so high as, 2 per cent. Indeed, the question of mortality no longer demands serious discussion by competent surgeons. The matters which still require most earnest consideration are the indications for operation, the choice of the exact method suitable for each case, the exercise of infinite, daintiest care in every movement during operation, and a watchful interest over all patients for months after recovery from operation. Gastro-enterostomy is perhaps as safe as any abdominal operation can be. I have lost one case in my last thousand, and upon many of these cases cholecystectomy, appendicectomy, or both were simultaneously performed. When adequate care is taken the "perfect results" are over 90 per cent. The chief anxiety centres round recurrence of ulceration. This serious condition has developed in 1·84 per cent. of my cases. This is less than the incidence after resection, so far as I am able to judge. I have given some figures in support of this statement elsewhere. Prof. Pannett found three cases of recurrent ulceration in 83 cases, a higher percentage than many of us have found after the simpler operation, in far larger numbers of cases observed over longer periods. I have myself operated upon 11 cases of recurrent ulceration after resection performed by other surgeons and by myself.

Last year I spent twelve happy days with my old friends the Mayos in Rochester. I was delighted, but not in the least surprised, to find there no sympathy with subversive movements, and to learn that the views I hold as to the surgical treatment of chronic duodenal ulcer are theirs also. It is evident that those most experienced in these matters have refused to be beguiled by continental Lorelei into the pursuit of methods which are more dangerous at the moment of their application, and clearly less satisfactory in the long run.

I am, Sir, yours faithfully,

Portland-place, W., June 8th, 1931. MOYNIHAN.

To the Editor of THE LANCET.

Mr. Pannett says the object of his paper is to record the results of his own experience, which has led him to conclude that pyloro-duodenal resection is preferable to the older and well-established operation of gastro-jejunostomy.

Let us examine the reasons he gives for this preference. They are: (1) After gastro-jejunostomy he has a mortality-rate of 8·5 per cent., whereas after pyloro-duodenal resection his mortality is 2·3 per cent. (2) The after-results of resection give him 81·5 per cent. cures; after gastro-jejunostomy only 61·5 per cent. On these figures his conclusions seem justified, but I find it as difficult to believe so able a surgeon as Mr. Pannett cannot produce something better than 8·5 per cent. mortality after gastro-enterostomy, as to understand how he can expect to get any reliable evidence regarding after-results founded upon only 51 cases. He himself admits the figures are "absurdly small," so would it not have been better to wait until he had something really impressive before attempting to make heretics of us all?

If figures must be used to prove anything let them be big, for it is only then that they *begin* to be reliable. In the *British Medical Journal* (1929, ii., 1074) Dr. A. P. Luff has reported the results of a statistical investigation on this subject based upon fairly large figures. These are his results so far as they are applicable to the present discussion. There were 995 cases of duodenal ulcer and 454 of pyloric ulcer—these are the same thing, and so we have: (1) 1449 cases of duodenal ulcer on which gastro jejunostomy was performed with a mortality rate of 4·3 per cent. (2) The after-results of gastro-jejunostomy for duodenal ulcer give 91 per cent. cures in 1064 cases followed up. These figures represent the massed achievements of many surgeons at different hospitals. I venture to predict a similarly massed result of resection for duodenal ulcer would make a poor show in comparison, even as Mr. Pannett's does, though he is an expert in this particular operation. Moreover, individual surgeons dealing with fairly large numbers of gastro-enterostomy cases can show a lower mortality-rate than that which apparently pleases Mr. Pannett in the case of his resections.

Mr. Pannett says when the ulcer was a small and soft one he did not feel justified in doing a pyloro-duodenal resection (even though he considers it a better operation than gastro-jejunostomy). I agree that resection is most certainly not necessary in this instance, though I fail to appreciate his argument, but I feel confident that if resection were reserved for the only kind of ulcer which I think might reasonably call for this operation—viz., the posterior type ulcerating into the pancreas—the mortality-rate would be higher than 2·3 per cent., and I get the impression from Mr. Pannett's paper that he does gastro-jejunostomy for ulcers in this place and of this kind.

Just one more criticism. Mr. Pannett says for the stubborn recalcitrant cases of duodenal ulcer there are three accepted surgical operations—gastro-jejunostomy, pyloro-duodenal resection, and pyloro-plasty. Why does he not mention gastro-duodeno-stomy, which, I think, has a position in surgical procedure more assured than the two he mentions last?

I am, Sir, yours faithfully,

Leeds, June 9th, 1931. E. R. FLINT.

THE ST. CYRES LECTURE.

To the Editor of THE LANCET.

SIR,—May I ask you to print in your journal this simple protest against the publication in your issue of May 23rd of a full abstract of my St. Cyres lecture without my knowledge, and without my being afforded any opportunity of correcting the many inaccuracies that your printed account contains. Although it is derived from my lecture I am not prepared to accept responsibility for any part of this publication in your journal.

I am, Sir, yours faithfully,

THOMAS LEWIS.

Department of Clinical Research, University College Hospital, Medical School, University-street, W.C. 1, June 3rd, 1931.

*** By omission of the names of his collaborators our report has made Sir Thomas Lewis appear responsible for certain experiments and conclusions not his alone. We regret that it contains inaccuracies —for example, Potain's name is given as Potter, and Allbutt's theory of anginal pain is attributed to Parry.—ED. L.

ADEQUATE TREATMENT OF SYPHILIS.

To the Editor of THE LANCET.

SIR,—My article has evoked three letters to which I must reply.

In my opinion all that Colonel Harrison has said and quoted with regard to the occurrence of neuro-syphilis is not so much to be interpreted as due to the use of a single remedial agent but more essentially to the inadequate amount of it used during a given period—in other words, to the low efficiency index of the course. Similarly with Moore and Kemp's neuro-recurrences, the striking feature of the cases was the utter inadequacy of the treatment—again a low efficiency index. Among their 71 patients who completed the scheduled course—which has an efficiency index of 90—there was no case of neuro-recurrence. So far as the defaulter is concerned, an early and clinical neuro-recurrence—and 90 per cent. of Moore and Kemp's cases occurred within the first six months—is by no means the worst thing that can happen. It is probably the best, for it quickly brings the patient back for further treatment. The defaulter from concurrent therapy may not exhibit a neuro-recurrence, but his uncured syphilis is most certainly causing grave visceral damage, though years may elapse before it is clinically recognisable. When his true condition is eventually discovered, not only is the structural and functional damage permanent, but in the interval he almost certainly has conveyed the disease unwittingly to others.

Concerning the elimination of arsenobenzene compound, surely there is experimental evidence (Clausen and Jeans, Kolmer, and others) which goes to show that approximately half of each dose is retained in the tissues and is gradually eliminated over a period of many weeks. Indeed Mr. Lees mentions this in the latter part of his second paragraph. Of course, the fullest therapeutic effect is seen in the first three days after the injection, and this is the reason why, when the patient can attend twice in the first week, we give him during that time two intravenous injections of 0·3 g. stabilarsan. I agree that for every clinical neuro-recurrence there must be a number of cases with cerebro-spinal fluid abnormalities. This applies equally to cases treated alternatingly, concurrently, or monotherapeutically. In Report No. 132, p. 48, Colonel Harrison himself says that "a form of treatment which is followed by fewer clinical neuro-recurrences than is another, can be expected also to have considerably fewer cases with pathological changes in the cerebro-spinal fluid." Since, then, there is no difference between our two lines of treatment with regard to clinical neuro-recurrence, may we not assume that the same will obtain in respect of cerebro-spinal fluid? In so far as Bernard's investigation is concerned I would again point out that the value of a line of treatment can only be assessed from patients who have completed the course and not from those who have defaulted.

Mr. Lees seems to suggest that my methods and arguments are supported merely by the 136 cases to which I referred in the *British Journal of Venereal Diseases* (1930, vi., 212). If so, he does me an injustice. These were simply a series of male cases who had completed the scheduled course for early syphilis, had fulfilled the criteria of cure, and who, during an observation period of from three months to nine years, had suffered no relapes, clinical or serological. My thesis is based not upon these only, but upon all the syphilitic patients seen at the Warrington and Salford municipal clinics from 1921 to 1931. However, even upon the number given, I am entitled to give a reasoned opinion. If Mr. Lees really thinks that "most clinicians will be unable to accept an opinion based upon so small a number of cases observed for an inadequate period," then he and most clinicians will likewise be unable to accept the opinions of Colonel Harrison in Report No. 132. There, in respect of sero-negative primary syphilis, there are only 183 cases tabulated (Table G., p. 32), and of these, only 53 completed the course. Of the total, only 25 were under observation for over three years, and 99, or 54 per cent., were only observed for 12 months and under. In 147 sero-positive primary patients, only nine were observed for over three years, and with respect to the 181 early secondary cases, the observation period was over three years in only 11 instances. In this connexion, then, Dr. Allen's remark that I have not observed my cases long enough or adequately enough, applies, of course, with equal force to Colonel Harrison's series. What Dr. Allen's experience may be I do not know, but mine—and apparently also Colonel Harrison's—is that there is only a small percentage of cases that one can keep under observation for more than three years. One must adopt reasonable and practicable standards of cure and observation. Mine are: absence of clinical and serological signs after provocation for at least two, and if possible three, years after the cessation of treatment.

Mr. Lees states that the rest intervals under concurrency are not provided to allow the patient to recover from the toxic effects of the agents, and yet, in the next sentence, he admits just that very thing. He says that the drugs are stored up in the tissues and that the rest intervals are to allow the body to use them up or to eliminate them. If the rest were not given, then surely the accumulation would produce toxic symptoms. That is the clear reason why the rest period is adopted. Mr. Lees finds the incidence of complications very uncommon simply because he introduces so many rest intervals in his course to avoid them. Let him cut out these periods and see what happens. The duration of his course for sero-negative primary syphilis is 103 weeks, during which time there are only 64 weeks of actual therapy, counting the provocative injections

as such. Rest intervals occupy 38 per cent. of the time, and treatment 62 per cent. During the 64 weeks of therapy, in only 15 are the drugs given concurrently.

Mr. Lees says that "there is no accepted proof that bismuth when injected into the body produces a toxalbumin." I would refer him to "Le bismuth dans le traitement de la syphilis" by Levaditi (Paris, 1924), p. 262 et seq., and to the references contained therein. My view about mercury is that where there is no contra-indication to Ab.C. or bismuth, to use that agent is a waste of time. I am in full agreement with Colonel Harrison in that we know from past experience of patients "treated conscientiously with mercury for two years, and from observation of later effects, the most that this is likely to do is to keep the serum reactions negative and everybody concerned in a fool's paradise."

Neither Mr. Lees nor Dr. Allen appears to like my method of evaluating therapy. I cannot reply to their criticisms in detail, but perhaps they may find the idea more clearly expressed in the *American Journal of Syphilis* (April, 1931, p. 155). I do not know what to make exactly of Dr. Allen's observations. The first would suggest that he is not very well acquainted with the methods of testing the chemotherapeutic index of a drug. He must surely see how fallacious would be his method. In his third observation he has misinterpreted my meaning. What I do wish to convey is that during the seven-day time-period, whatever the amount of drug given, it should be the optimum for that particular patient at that particular time. One does not give less than is necessary or more than is safe. It is just in this respect that my method does take great account of varying factors such as the condition and age of the patient. The proof of the pudding is the eating thereof. Assessing various schemes of treatment according to the method I suggest, one finds that, for example, in sero-negative primary syphilis, the efficiency index must not fall below 70 in order to get a satisfactory percentage of cures. I have studied the efficiency indexes of some of my relapsed cases, and in none of them has the index been above 70.

I am not seeking to standardise treatment in the way that Mr. Lees suggests. I have merely put forward a method whereby we may have a measuring-rod which will enable us to say that therapy, to be adequate, must not fall below a certain index figure. From practical experience we have found that method useful here, and that is—as Mr. Lees and Dr. Allen will agree—of far more value than their purely theoretical objections. The point is that this method *works*, whereas treatment calculated in terms of quantity of drug given in a certain time is utterly meaningless.

I am, Sir, yours faithfully,

E. TYTLER BURKE.

Municipal Clinic, Salford, June 8th, 1931.

To the Editor of THE LANCET.

SIR,—On June 21st, 1930, you published a very able, and very disturbing, paper by Dr. J. H. Sequeira on the Activation of Syphilis by Treatment, which should be read in connexion with the present discussion. An earlier communication relating to the work of Cesar Boeck and the pathological investigations of Bruusgaard and of Warthin appears in the issue of Jan. 18th, 1930 (p. 159). Together they constitute a severe arraignment of modern methods as failing to prevent serious visceral and neural involvement and proving otherwise doubtfully effective.

And yet it is clear that syphilis seems sometimes to be cured very quickly, and by the simplest means. In hospitals and institutions catering for elderly men one occasionally meets evidence of an early infection, and elicits such a history as the following, quoted as typical. Questioned about the unmistakable scar left by a chancre, the patient, now 70, states that at the age of 19 when on a voyage to the Cape a sore appeared on the penis, and as it was not healing the mate had him swallow regularly some "pills." After about a month the place got well, the pills were stopped, and no further treatment taken. Three or four years later he married; and except for the recent difficulty with his water his health has been excellent, and the married life of himself and his buxom and contented wife quite uneventful. Upon request they bring along several children and grandchildren for inspection; no evidence is found of inherited disease, no history is elicited of miscarriages, and the blood of one of the adults, chosen as representative, is Wassermann-negative. It is therefore reasonable to conclude that the mercury that this man undoubtedly was given proved neither "inefficient" nor a "mere waste of time."

Few will contend that the administration of arsenobenzene preparations constitutes alone an adequate treatment of syphilis. Probably a majority of experienced specialists continue to regard mercury as the necessary complement of arsenic in antiluetic treatment, assigning to bismuth a position somewhere between the other two, as a sort of hybrid possessing something of the properties of each but the therapeutic efficiency of neither.

The arsenobenzene preparations are pre-eminently direct spirochæticides. Sir Jonathan Hutchinson believed that the action of mercury in early syphilis was very similar but that at a later stage it was principally indirect, or in other words, that it was antigenic; and it was his experience that where small doses of grey powder were taken regularly over a sufficient period recurrences were extremely rare. Writing in 1909, he states definitely that no case of paraplegia had ever occurred among his own patients—and he had then been in active practice for 50 years.

Many thoughtful observers believe that the outlook for complete and lasting recovery would be bettered if the treatment of recent syphilis were commenced with a reasonably long course of mercury, given in small doses and chiefly for its assumed antigenic properties, the arsenicals being held in reserve until some immunity or insulation is considered to have been established, when they would be brought forward to reinforce the fully stimulated natural resistance. Although not proved, it is reasonable to suppose that something more than a cell response is evoked by the presence of *Sp. pallida* in the human body. It may well be that the presence of spirochætes in numbers and over a period is also necessary for the acquirement of adequate protection.

I am, Sir, yours faithfully,

H. D. L. SPENCE.

Great Russell-street, W.C. June 9th, 1931.

THE DIFFICULT CHILD.

To the Editor of THE LANCET.

SIR,—In your annotation of May 16th (p. 1097) criticism was made of the extent to which the social worker is allowed to conduct the active operations of child guidance work, and of the inadequate provision

for dealing with the more difficult parent of the difficult child. This evoked some comment from my colleague, Dr. Emanuel Miller, and I should like to amplify his remarks. As far as our knowledge goes, we incline to agree that the former criticism may be a just one when applied to the methods of child guidance as practised in American clinics. In our own clinic, which is modified from the American pattern, it is our aim that both diagnosis and treatment shall be kept, at every step, under the close personal care of the physician, believing that this is essential to sound work.

As to the parents who, in our experience as in yours, provide the most frequent and the most difficult problems, our practice is to devote much personal effort to the correction of their psychological difficulties rather than "tacitly to leave them to be handled by the social worker." Detailed investigation of parental habits and of home conditions is, and must be, carried out by the social worker who is specially trained for the work. How many physicians have anything like her experience or skill in this respect? At the same time it becomes increasingly obvious that personal contact between psychiatrist and parent is to be desired in every case. In our last 100 cases, including several children whose attendance has only just begun, one of the parents has been seen by the psychiatrist in 92 instances, both in 32, while other members of the family have been interviewed in 19. Some parents have been sent for periods of so-called convalescence and some have been referred to appropriate clinics for more overt and active psychotherapy.

It is true, as you say, that "the problem of the parent has not been wholly solved by the child guidance scheme," but it has at least been brought more fully into the light, which should be a first step towards solution.

I am, Sir, yours faithfully,

London, S.W., June 5th, 1931. NOEL H. M. BURKE.

SUPERVISION AND DEATH IN CHILDBIRTH.

To the Editor of THE LANCET.

SIR,—While some papers correctly, though briefly, reported an address which I gave before the College of Nursing Post-graduate Course at the London School of Hygiene on May 18th, others did not, and serious mis-statements were included in certain reports. My official position normally precludes me from attempting to correct any perversion of my addresses or papers by communicating with the press. In the present instance, however, I fear that serious misunderstanding may arise from the incorrect attribution to me of a statement that, if I had the supervision of maternity cases, I could guarantee a reduction of three-quarters of the present average mortality. What I did say was that if effective medical and midwife supervision of maternity cases began early enough and was properly maintained up to and after childbirth, ultimately the maternal mortality-rate might well be reduced by as much as three-quarters. This is indicated by the excellent results already secured in existing practice which are recorded on p. 106 of the Interim Report of the Departmental Committee on Maternal Mortality for 1930.

I am, Sir, yours faithfully,

GEORGE NEWMAN.

Ministry of Health, Whitehall, S.W.,
June 9th, 1931.

CHAIRS OF PHYSIOLOGY.

To the Editor of THE LANCET.

SIR,—Surely Prof. J. F. Fulton is wrong when he says (p. 1211) that the Waynflete chair of Physiology at Oxford was created in 1878. Burdon Sanderson was created Waynflete professor of physiology in 1882. Until 1881 the chair was held by my father, George Rolleston, who was Linacre professor of anatomy and physiology. After his death in 1881 the chair was divided into two, Moseley taking comparative anatomy and morphology and Burdon Sanderson physiology. It was not, I think, until some years later that Arthur Thomson was made professor of human anatomy.

I am, Sir, yours faithfully,

June 9th, 1931. CHRISTOPHER ROLLESTON.

*** Our issue of June 17th, 1882, contained the announcement that "advertisements will speedily be issued for the Waynflete professorship of physiology." —ED. L.

MEDICAL NEWS

University of Cambridge.

On June 6th the following degrees were conferred:—

M.D.—R. M. B. MacKenna, C. C. R. Downing, J. P. Marsden, and M. E. Lampard.

M.B.—H. L. Hoffman.

B.Chir.—C. O. Barnes.

Society of Apothecaries of London.

At recent examinations the following candidates were successful: *Master of Midwifery*—A. V. Clemmey, B.M., Archibald Gardiner, M.B., Greta Hartley, M.B., and Eva J. Newton, M.B.

University of London.

At recent examinations the following candidates were successful:—

THIRD EXAMINATION FOR M.B., B.S.

Honours.—H. W. Howell (*a*), and L. H. Howells (*a*), London Hosp.; A. F. Z. Judd (*a*), L.S.M.W.; Muriel H. E. Long (*c*) King's Coll. Hosp.; P. V. Reading (*d*, *e*, University Medal), and T. F. Todd (*e*), Guy's Hosp.; and Marion E. Townsend (*e*) L.S.M.W.

(*a*) Distinguished in Medicine. (*c*) Distinguished in Forensic Medicine. (*d*) Distinguished in Surgery. (*e*) Distinguished in Midwifery.

Pass.—R. M. Alderton, London Hosp.; Gwendolen E. Austin, King's Coll. Hosp.; Frederick Back, St. Thomas's Hosp. and London Hosp.; E. E. Barnett, London Hosp.; A. L. Basham, St. Thomas's Hosp.; J. E. L. Bendor-Samuel, and C. C. Beresford, London Hosp.; Ilma B. S. Bingemann, St. Mary's Hosp.; Helen B. Burt, and Joan Butterworth, L.S.M.W.; A. C. Byles, St. Mary's Hosp.; P. H. Charlton, Middlesex Hosp.; D. O. Clark, St. Thomas's Hosp.; A. R. Clarke, Guy's Hosp.; R. D. Darley, Univ. Coll. Hosp.; H. L. G. Davies, St. Bart.'s Hosp.; S. D. Elliott, Univ. Coll. Hosp.; W. J. Ferguson, Guy's Hosp.; L. P. Friedman, Univ. Coll. Hosp.; R. J. Furlong, St. Thomas's Hosp.; A. P. Gaston, St. Bart.'s Hosp.; J. B. George, St. Thomas's Hosp.; S. J. Golden, London Hosp.; Rebecca Goldstein, Univ. Coll. Hosp.; R. T. S. Goodchild, London Hosp.; P. R. Graves, St. Thomas's Hosp.; S. R. Gunewardene, Univ. Coll. Hosp. and Ceylon Med. Coll.; F. R. Gusterson, St. Thomas's Hosp.; R. L. H. Harris, St. Bart.'s Hosp.; Ruth M. Harris, L.S.M.W.; W. H. Harris, Victoria Univ. of Manchester; William Hogg, St. Bart.'s Hosp.; S. W. Holmes, St. Mary's Hosp.; H. R. Hovsha, King's Coll. Hosp.; D. T. Ishmael, St. Bart.'s Hosp.; Evan Jones, St. Thomas's Hosp.; H. W. Jordan, J. D. Kershaw, and A. T. L. Kingdon, Univ. Coll. Hosp.; Nathan Kramer, St. Bart.'s Hosp.; F. P. L. Lander, Middlesex Hosp.; E. S. Lee, Westminster Hosp.; P. A. T. Lowden, St. Thomas's Hosp.; Mohabeer Luckeenarain, Univ. Coll. Hosp.; Robert Machray, Westminster Hosp.; Wylie McKissock, St. George's Hosp.; Henrietta M. Macleod, L.S.M.W.; K. M. Masani, and J. H. G. Mason, Middlesex Hosp.; Bertha I. Meyer, L.S.M.W.; T. W. Mimpriss, St. Thomas's Hosp.; Joseph Mindline, Westminster Hosp.; Ian More, Univ. Coll. Hosp.; Kathleen J. Mulvany, Charing Cross Hosp.; Lois M. Munro, L.S.M.W.; W. L. Neustätter, Univ. Coll. Hosp.; G. H. Newns, King's Coll. Hosp.; J. E. A. O'Connell, and A. P. M. Page, St. Bart.'s Hosp.; D. N. Parfitt, Univ. Coll. Cardiff; F. L. L. Patrick, St. Bart.'s Hosp.; A. L. Pereira, St. George's Hosp.; J. H. Pierre, St. Bart.'s Hosp.; N. S. Plummer, Guy's Hosp.; D. C. Price, St. Bart.'s Hosp.; Helen M. M. Reid, L.S.M.W.; T. S. Rodgers, Westminster Hosp.; K. M. Ross, St. Bart.'s Hosp.; Samuel Scher, Univ. Coll. Hosp.; V. E. P. Senewiratne, Ceylon Med. Coll. and

Univ. Coll. Hosp.; G. C. Sheldon, King's Coll. Hosp.; Helana Sidarous, L.S.M.W.; S. K. Squires, St. Mary's Hosp.; Eileen M. G. Stevenson, L.S.M.W.; R. G. Thomas, St. Thomas's Hosp.; J. A. White, St. Mary's Hosp.; I. G. Williams, Middlesex Hosp.; F. W. Willway, King's Coll. Hosp.; and William Young, St. Mary's Hosp.

The following students have passed in one of the two groups of subjects:—

Group I.—Wolf Aukin, Univ. Coll. Hosp.; H B. Barker, St. Mary's Hosp.; H. W. Benham, Univ. Coll. Hosp.; A I. P. Brown, London Hosp.; Albert Burkhardt, Univ. Coll. Hosp.; E. H. Capel, Middlesex Hosp.; A. F. H. Coke, St. Mary's Hosp.; H. E. B. Curjel, St. Thomas's Hosp.; J. O. F. Davies, Middlesex Hosp.; S. B. Dimson, and P. G. Dowdell, Univ. Coll. Hosp.; E. H. Evans, Univ. Coll. Cardiff and Univ. Coll. Hosp.; Phyllis M. Fraser, L.S.M.W.; J. B. Great Rex, St. Bart.'s Hosp.; Hilary S. M. Hadaway, L.S.M.W.; D. W. James, Guy's Hosp.; E. G. M. Jones, Univ. Coll. Hosp.; B. W. Knight, St. Bart.'s Hosp.; G. A. M. Lintott, Guy's Hosp.; W. F. McGladdery, St. Bart.'s Hosp.; Dorothy Makepeace, King's Coll. Hosp.; S. F. Marshall, St. Bart.'s Hosp.; Gwendolen E. M. Meyer, Charing Cross Hosp.; J. E. Morton, Guy's Hosp.; D. D. Payne, St. Thomas's Hosp.; R. N. C. Smith, and Ben Southwell, Guy's Hosp.; Thomas Standring, King's Coll. Hosp.; F. L. Wheaton, Middlesex Hosp.; S. J. Wheeler, Guy's Hosp.; and E. L. Williams, Univ. Coll. Hosp.

Group II.—I. S. Acres, London Hosp.; K. C. Buck, St. Mary's Hosp.; Margaret E. Cope, L.S.M.W.; D. F. L. Croft, and J. R. Crumbie, St. Bart.'s Hosp.; E. B. Grogono, J. M. Harker, and B. T. W. Harvey, London Hosp.; K. L. James, Univ. Coll. Hosp.; Samuel Lefcovitch, Guy's Hosp.; K. S. May, King's Coll. Hosp.; E. R. R. Mellon, Guy's Hosp.; H. S. Morton, London Hosp.; D. K. Mulvany, King's Coll. Hosp.; C. F. Price, and W. M. Priest, Univ. Coll. Hosp.; J. M. Robertson, Guy's Hosp.; R. W. Scarff, Middlesex Hosp.; M. R. Thomas, and W. J. Tindall, Univ. Coll. Hosp.; R. S. Wale, King's Coll. Hosp.; and Gordon Wells, St. Bart.'s Hosp.

L.S.M.W. = London School of Medicine for Women.

International Congress for Light.

The secretary-general of this congress (see THE LANCET, April 4th, p. 783) asks us to state again that the meeting is to be held in Copenhagen in 1932 and not this year. A detailed programme will be available in the autumn.

Federation of Cremation Authorities.

This association will hold its tenth annual conference in Ipswich from June 19th to 23rd. Among the speakers on the 22nd will be Sir William Willcox, Dr. A. N. M. Pringle, Sir W. Arbuthnot Lane, and Dr. W. E. Dixon, F.R.S.

Reception by R.A.M.C.

The officers of the Royal Army Medical Corps held a reception at their headquarters mess at Millbank, London, on June 4th. A large company of guests was received by Lieut.-General Sir Harold Fawcus (Director-General, Army Medical Services) and Lady Fawcus.

Memorial to Dr. J. Llewellyn-Jones.

On Sunday, June 7th, Princess Victoria visited Gerrard's Cross, Buckinghamshire, to unveil in the parish church a tablet erected to the memory of Dr. John Llewellyn-Jones, who died in February of last year. An address was given by Mr. D. Cotes-Preedy, K.C., Recorder of Smethwick, himself a member of the medical profession and an old friend of Dr. Llewellyn-Jones. A large congregation attended.

Fellowship of Medicine and Post-Graduate Medical Association.

Arrangements for the coming week will be found in our Medical Diary. On June 15th a fortnight's course on diseases of children begins at the children's clinic and various hospitals, and a three weeks' course on tropical medicine at the Hospital for Tropical Diseases. Also starting next week, a course of six demonstrations on fractures, on Tuesdays, Wednesdays, and Fridays for two weeks, will be given at the Royal Albert Dock Hospital at 4.30 P.M. by Mr. Hope Carlton and Mr. Ernest Griffiths. Copies of all syllabuses and tickets may be had from the secretary of the Fellowship at 1, Wimpole-street, London, W. 1.

International Socialist Medical Conference.

At the end of May nearly 200 doctors, representing about ten national socialist medical associations, met in conference at Carlsbad in Czecho-slovakia. Dr. Somerville Hastings, M.P., and Dr. W. Rutherford represented the newly formed British Socialist Medical Association. The chief business of the meeting was the formation of an international association; the central bureau is for the present to be in Berlin with Dr. Ewald Fabian as secretary. At the discussion it was pointed out that in many countries the health of the children, especially those of the unemployed, is being lowered, and that in the younger unemployed men nervous disorder and crime are increasing. A resolution was carried in favour of increased allowances for the unemployed, raising of the school-leaving age to 16, shorter hours of labour, and the building of more houses for the people.

Medical Congress in Carlsbad.

The thirteenth Carlsbad International Medical Educational Congress (with special reference to balneology) will be held at Carlsbad from Sept. 13th to 19th. Among the participants will be Dr. Philip Manson-Bahr (London) who will give an address on the Dawn of Tropical Medicine. Members of the congress will be guests of the town during their visit. Particulars may be had from Dr. Edgar Ganz, Carlsbad, Czecho-slovakia.

Scottish Midwives Conference.

Under the presidency of Dr. Margaret Scott-Dickson, the fourteenth annual meeting of the Scottish Midwives' Association was held at Dundee Royal Infirmary last Saturday. It was felt that the members had a very real grievance in that they were frequently required to give their services without receiving any recompense. Strong criticism was levelled against the handywoman, and members were advised to report cases in which the woman of the house had taken on the duties of the midwife.

Tonsil Surgery in Paris.

Under the auspices of the Association for Post-graduate Teaching of the Hospitals of Paris, a series of discussions and surgical demonstrations on Tonsil Surgery are being given from June 15th to 17th at the Hôpital Necker-Enfants Malades by Dr. J. M. Le Mée, Dr. André Bloch, and Dr. M. Bouchet, with the assistance of Dr. Weill-Hallé and Prof. G. Canuyt. The lectures will be delivered in the afternoon between 4 and 6. The demonstrations will be held in the mornings from 10 to 12. Explanations will be given as required in French, English, German, or Italian. Arrangements are in the hands of Dr. Magdelaine, assistant at the hospital, 149 rue de Sèvres, Paris.

Post-graduate Lectures on Proctology.

The staff of St. Mark's Hospital, City-road, London, E.C., is giving a series of weekly lectures on proctology to medical practitioners. Each lecture will begin at 4.30 P.M., and the following days and subjects have been arranged: Monday, July 6th, Mr. J. P. Lockhart-Mummery: Perineal Excision of the Rectum (with cinematograph demonstration). Thursday, the 16th, Sir Charles Gordon-Watson: Carcinoma of the Colon. Wednesday, the 22nd, Mr. L. E. C. Norbury: Prolapse of the Rectum. Tuesday, the 28th, Mr. W. B. Gabriel: Anal Fissure.

Medical Golfing Society.

The annual summer meeting was held on May 28th at Walton Heath where the 96 competitors were the guests of Lord Riddell. The results were: THE LANCET Cup (scratch), Dr. W. H. Lamplough, all square; Henry Morris Cup (Handicap), Dr. W. H. Lamplough, 2 up. Class 1. First Prize, Dr. J. Wallace; Second Prize, Dr. Gilliatt; best last 9, Mr. George Dawson. Class 2. First Prize, Dr. C. H. Ilott; Second Prize: Dr. C. Branwell; best last 9, Dr. Rolf Creasy. Foursomes: Mr. Rowley Bristow and Dr. W. H. Lamplough after a tie at 3 up with Dr. Galletly and Dr. McGrath. The Knock-out Tournaments and Milsom Rees Cup was won by Sir Kenneth Goadby, the runner up being Dr. Bathurst.

Debt of London Hospital.

At the quarterly meeting of governors last week Lord Knutsford, the chairman, stated that the loan from the bank now stood at £44,000, and that if borrowing continued at the present rate the limit as covered by the general purposes securities would soon be reached. All building extensions are to be postponed until the money is actually in hand.

Testimonial to a Medical Man.

The sum of £561 is to be handed over to the family of Dr. William Muir who died in March at Davidson's Mains, Edinburgh. The sum was the result of a collection raised as a testimonial to Dr. Muir when it seemed probable that he would recover from his illness. For 35 years Dr. Muir carried on practice in the district, with self-sacrificing devotion, and he also interested himself greatly in public affairs, especially in education.

Founders' Day at Alton.

The celebration of Founders' Day at the Lord Mayor Treloar Cripples' Hospital and College at Alton, Hants, last week was marked by the opening by Sir Roger Keyes of the Portsmouth block which contains the Fourth Destroyer Flotilla and Naval Memorial Wards. In the wards are tablets commemorating the names of officers and men who fell in the battle of Jutland. There are 360 children under treatment and 50 boys are being trained in the College. Lord Burnham, the senior trustee, who presided, stated that the old wooden buildings left over from the Boer War are fast disappearing and being replaced by a hospital "that would be a model for the world."

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS.

MEDICAL SERVICES AND THE PETROL DUTY.

On June 8th the House of Commons began consideration of the Finance Bill in Committee. The discussions were limited by the time-table adopted last week, with the result that large numbers of amendments on the Order Paper were not called upon. Clause 1 of the Bill increases the customs duty on hydrocarbon oils from 4*d*. to 6*d*. a gallon. Lieut.-Colonel FREMANTLE and other Members had given notice of amendments exempting from the operation of the duty petrol used by medical practitioners and veterinary surgeons in carrying on their medical and veterinary practices and petrol used in hospital ambulance work.

During the debate on the question that Clause 1 should stand part of the Bill,

Lieut.-Colonel FREMANTLE said that under the Guillotine Resolution the Committee was compelled to pass over a number of amendments to this clause which were of definite importance, and as an illustration he might mention two in which he was particularly interested. They were the amendments which suggested exemption first in the case of ambulances attached to hospitals, and, secondly, in the case of medical and veterinary practitioners. There were precedents for these proposals, and he only spoke of them as illustrating the damage which could be done by imposing a general duty of this sort without giving any time for the consideration of the exemptions. In the Finance Act of 1910, which originally imposed the motor spirit duty, medical men were given a rebate of one-half of the duty in respect of motor-cars owned and worked by them in carrying out the duties of their practice. As regarded ambulances, there was also a definite precedent. At present lifeboats were exempt. Why then should the ambulances of hospitals be taxed? They were required more than ever to-day because of the increasing number of road accidents. The cost of attending to those accidents was not borne by the Government and was not to any large extent borne even by the people who suffered, but was to a large extent borne by the voluntary hospitals, the ambulance services, and the St. John's Ambulance Association. A very small proportion was paid by the people who had the benefit of those services. He knew that in theory the Government proposed to their Socialist supporters that there should be Socialistic services of this kind, and that all these things should be run by the State; but, on the other hand, they often came to the House of Commons and said: "We have to take things as they are." Then they put even greater burdens upon the people who already had to bear the incubus of these services. They said they were compelled to do so pending the nationalisation of those services. They might one day have the nationalised medical service proposed by Dr. Hastings, but he (Colonel Fremantle) thought that it would be a long time before they had it. It would be the acid test of the theory, because people would then have the opportunity of realising the rights and wrongs, the advantages and the disadvantages, of a mechanical system. This clause would add considerably to the cost of running ambulances and to the expenses of the country doctor. He reckoned that to the ordinary country doctor who covered 20,000 miles in the year, and whose car did 20 miles to the gallon, the extra 2*d*. would mean an extra £10 a year. This was a definite case which the Government ought to face. So long as they were dependent to a large extent on voluntary institutions for such essential public services any Government ought to relieve them as far as possible of fresh taxation in so far as it applied to their work in the service of the community.

The clause was agreed to.

Sentence of Death (Expectant Mothers) Bill.

On June 2nd in the House of Commons the Sentence of Death (Expectant Mothers) Bill was read the third time. On June 5th in the House of Lords the same Bill was introduced and read a first time.

HOUSE OF COMMONS.

THURSDAY, JUNE 4TH.

Ice Cream Vendors.

Sir COOPER RAWSON asked the Minister of Health if he had, in the interests of public health, considered the desirability of the compulsory registration of itinerant ice-cream vendors with the local authority to ensure control of the conditions of manufacture and the type of premises used in connexion with this commodity.—Mr. GREENWOOD replied: I could not undertake to introduce legislation on this subject at the present time. I may, however, draw the hon. Member's attention to Section 72 of the Public Health Act, 1925, which requires the maintenance of proper sanitary conditions in places where food is prepared for sale.

Sir G. PENNY: Will the right hon. gentleman take samples in order to ascertain whether they are pure?

Mr. GREENWOOD: I am very willing to discuss with the Ice Cream Merchants' Association, who have been taking up this matter, any possible action that may be taken.

Hospital Sweepstakes.

Mr. DAY asked the Home Secretary whether, in view of the public interest taken in the Irish hospitals sweepstakes held on the Derby and other English races, he would now consider the question of setting up a committee to inquire into the conditions that would be necessary and appropriate for the purpose of altering the existing lottery laws.—Mr. CLYNES replied: The matter is now under consideration.

Mr. CHARLES WILLIAMS: May we expect a decision on the matter?

Mr. CLYNES: You may, but I can say no more at present.

Private Nursing Homes in London.

Mr. WEST RUSSELL asked the Minister of Health whether he could arrange for an annual report to be issued to show what was being done to improve the standard of private nursing homes in the metropolitan area and to close those which were in unsuitable neighbourhoods and structurally unfitted.—Mr. GREENWOOD replied: Under the Nursing Homes Registration Act, 1927, the London County Council is the local supervising authority in the metropolitan area outside the City of London, and a report on the administration of the Act is included in the annual report of the council. I understand that a complete statement of the present position will be included in the report for 1930 which is now in preparation.

Mr. A. M. SAMUEL: Is the right hon. gentleman doing anything to improve the acknowledged bad standard of some of these private nursing homes in the metropolis? Does he do anything to check it?

Mr. GREENWOOD: That is a matter for my predecessor.

Russian Butter.

Sir N. GRATTAN-DOYLE asked the Minister of Health whether he had any statement to make concerning the report of Mr. Warburton, the official zoologist representing the School of Agriculture at Cambridge, in reference to a foreign body designated as a "parasite" discovered by him in a sample of Russian butter purchased in Cambridgeshire, and whether there was any danger of infection from such foreign body contained in an article of food?

Mr. GREENWOOD: I have no information on the subject except what has appeared in the press. I am making inquiries and will communicate with the hon. Member.

Sir N. GRATTON-DOYLE: Does the right hon. gentleman realise the seriousness of what has occurred? Does he realise the possibility of infection being conveyed into this country by Asiatic parasites which are entirely new and are a revelation even to the authorities?

Mr. GREENWOOD: I have no knowledge myself that one dead parasite could cause much harm to anyone.

Mr. GUINNESS: Will the right hon. gentleman consult with the Minister of Agriculture as to whether this may

not be a case for bringing into force the power of prohibiting an import, just as is done in the case of maggotty cherries, which are far less objectionable or dangerous?

Mr. GREENWOOD: That is one of the matters into which inquiry is being made.

Lieut.-Commander KENWORTHY: Do these parasites breed in mare's nests?

Boy's Sight and Vaccination.

Mr. FREEMAN asked the Minister of Health whether his attention had been drawn to the case of Victor Rands, aged 7 years, of Parsloes Farm, Dagenham, who lost the sight of his right eye as a result of vaccination in October, 1930, by the public vaccinator; whether he was aware that Victor Rands was at the time under treatment for a septic knee; that the child's eye got steadily worse, and the medical officer of health, when he saw the boy at the minor ailments clinic, recommended him to be taken to the Moorfields Eye Hospital; and whether he would have a thorough investigation made into this case.—Mr. GREENWOOD replied: My attention has been drawn to this case, and I have already made inquiry into it. I am informed that the vaccination was performed by a public vaccinator on Oct. 22nd, 1930, with the consent of the parents. The public vaccinator states that he found no physical reason on that date why the boy should not be vaccinated, nor did he observe any evidence of an affection of the eye when he inspected the vaccination on Nov. 4th. It was not until 36 days after the date of vaccination that the boy was taken to the school clinic at Barking on account of his eye trouble. I am advised that the course of events is not consistent with the suggestions which have been made that the affection of the eye was the result of vaccination or that vaccine entered the eye at the time of vaccination.

Committee on Food Standards.

Mr. R. J. RUSSELL asked the Minister of Health the terms of reference for the Committee on Food Standards and the personnel appointed.—Mr. GREENWOOD replied: The terms of reference of the Committee are "to inquire into the working of the law as to the composition and description of articles of food other than milk, and to report what alterations, if any, in the law or its administration appear to be desirable." The Committee is constituted as follows:—Sir Frederick Willis (chairman), Mrs. J. L. Adamson, Mr. W. Barratt, Mrs. E. Beck, Mr. J. N. Beckett, Mr. G. A. Birse, Mr. H. F. Carlill, Mrs. N. E. Cottrell, Mr. A. T. A. Dobson, Mr. H. N. Goodby, Dr. J. M. Hamill, Mrs. Jean Roberts, Mr. R. A. Robinson, Mr. H. Shaw, and Mr. G. Stubbs.

Draft Conventions on Sickness Insurance.

Mr. MANDER asked the Minister of Labour whether the Government had now ratified the draft conventions concerning sickness insurance for workers in industry and commerce and domestic servants, and sickness insurance for agricultural workers.—Miss BONDFIELD replied: These conventions were ratified by an Order in Council of Jan. 5th last.

MONDAY, JUNE 8TH.

Tuberculosis among Naval Ratings.

Sir BERTRAM FALLE asked the First Lord of the Admiralty the number of ratings invalided with tuberculosis who were sent sick from H.M.S. *Warspite* during the last commission.—Mr. G. M. HALL (Civil Lord of the Admiralty) replied: The number of cases of tuberculosis which have occurred in H.M.S. *Warspite* since she recommissioned on Jan. 23rd, 1929, is 13, of which 11 have been invalided and two have died in hospital.

Sir B. FALLE asked Mr. Hall specially to inquire into this matter and ascertain why there had been so many cases, and how many of these men had been pensioned.

Mr. HALL replied that 8 were pensioned out of 13. An inquiry had already been held, but unfortunately they were not able to ascertain the actual cause of the very high percentage of cases in 1929.

Child Marriages in India.

Miss RATHBONE asked the Secretary for India (1) if he would report to the House what steps, if any, had been taken by the central and local governments of India to carry out the steps recommended two years ago by the Joshi Committee as necessary to render effective the administration of the Sarda Child Marriage Restraint Act—namely, a wide publicity campaign aided by State funds; the keeping of marriage registers in a prescribed form with details of age, &c.; universal compulsory notification of marriages and births; the issue free of charge of certificates of birth and marriage to the parties concerned; the employment of women police, women jurors and assessors, and medical women in the investigation of sexual offences; and the provision of separate women's waiting rooms at all court houses; and (2) how many complaints of violation of the Sarda Act of Restraint of Child Marriage had been received and dealt with by the courts since the Act came into force on April 1st, 1930, distinguishing between cases prior to and those subsequent to the formal cessation of the campaign of civil disobedience.—Mr. WEDGWOOD BENN replied: The Child Marriage Restraint Act, generally known as the Sarda Act, which was enacted on Oct. 1st, 1929, and came into operation on April 1st, 1930, makes it an offence punishable by fine or, in certain cases, by imprisonment or by both, to contract or arrange a marriage between persons either of whom is below the age of 18 in the case of the male and 14 in the case of the female. The Act further prescribes that to enable the appropriate court to take cognisance of an alleged offence under the Act, a complaint must be laid, within 12 months of the solemnisation of the marriage, in respect of which an offence is alleged. The actual inquiry into the complaint, if one is authorised by the court, is conducted by a magistrate. I am informed that between April 1st, 1930, when the Act came into force and February of this year there were 29 prosecutions under the Act. I have no more recent information, but the number of prosecutions since February is probably very small, if only for the reason that, as the House is no doubt aware, there are a number of private amending Bills which are either already before the Indian Legislature, or of which notice has been given. The Joshi Committee reported on June 20th, 1929, some months before the Sarda Bill was enacted in its final form, and its terms of reference were therefore framed without specific reference to that Act. Several of its recommendations, including those mentioned in Miss Rathbone's first question, have been referred by the Government of India to local governments. Until the views of all of these have been received and considered the Government of India are not able to decide what further steps can be taken in regard to these recommendations.

TUESDAY, JUNE 9TH.

Safety of Life at Sea.

Rear-Admiral BEAMISH asked the President of the Board of Trade what governments who were represented at the convention of 1929 for safety of life at sea had ratified that convention; and if any reservations had been declared.—Mr. W. GRAHAM replied: Up to the present Denmark and the Netherlands only have ratified the convention, with no reservations in either case.

Insurance Chemists and Gifts to Customers.

Colonel HOWARD-BURY asked the Minister of Health whether the Government had now come to a decision upon the proposal to introduce legislation to repeal the section which prohibited insurance chemists from giving an insured person an inducement by gift or otherwise in consideration of his presenting an order for drugs or appliances on a national health insurance form.—Miss SUSAN LAWRENCE (Parliamentary Secretary to the Ministry of Health) replied: Legislation is not necessary to deal with this point, but an appeal has been made against the recent decision of the courts in the matter, and until it has been heard my right hon. friend cannot properly make any statement.

Anti-vaccinal Serum.

Mr. FREEMAN asked the Minister of Health whether his department was taking any action in regard to the adoption of the use of an anti-vaccinal serum as a treatment in cases of post-vaccinal encephalitis which was strongly urged by the Rolleston Committee on page 72 of their second Report.—Mr. GREENWOOD replied: An anti-vaccinal serum has been made available and has been employed by the medical attendant in those cases of suspected post-vaccinal encephalitis which have since been reported and of which sufficiently early information has been received.

RATES ON HOSPITALS.—At the annual meeting of Darlington General Hospital it was stated that the rates upon the building have risen in two years from £45 to £850.

SLIPPERY HOSPITAL FLOORS.—Dr. Edwin Smith, the coroner for Battersea, recently held an inquest on a female patient of 88 in the Tooting Bec Mental Hospital who, according to the medical evidence, died of pneumonia following fracture of the thigh. It was stated that the patient fell, outside the ward, on a stone floor. The coroner asked "if something could be done to the floors which would keep them just as polished but less slippery," and it was arranged that the matter should be brought before the committee.

Medical Diary

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

THURSDAY, June 18th.—5 P.M., DERMATOLOGY (Cases at 4 P.M.).

FRIDAY.—5 P.M., PHYSICAL MEDICINE. Special General Meeting. BALNEOLOGY AND CLIMATOLOGY. Dinner at the Welbeck Palace Hotel, Welbeck-street, W., at 7.45 P.M. 8 P.M., OBSTETRICS AND GYNÆCOLOGY. Case. Prof. F. J. Browne: Inversion of Uterus. Short Communication. Prof. F. J. Browne: The Zondek-Aschheim Reaction in Chorion-epithelioma. Paper: Dame Louise McIlroy and Dr. Gladys Hill: Pregnancy Complicated with Diabetes. 8.30 P.M., RADIOLOGY. Special General Meeting.

SATURDAY.—ORTHOPÆDICS. Provincial Meeting at Oxford.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

THURSDAY, June 18th.—8.15 P.M., (preceded at 7.45 P.M. by a demonstration), Dr. E. Muir: Treatment of Leprosy.

BIOCHEMICAL SOCIETY.

SATURDAY, June 13th.—3.30 P.M. (at Marine Biological Station, Plymouth), Communications. Demonstrations by the Staff of the Station.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, June 15th to SATURDAY, June 20th.—MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square. M.R.C.P. evening lectures at 8.30 P.M. Tues., Dr. W. Langdon-Brown: The Association between the Endocrines and the Nervous System. Fri., Dr. B. T. Parsons-Smith: Heart Pain. BRITISH RED CROSS RHEUMATISM CLINIC, Peto-place, Regent's Park. Tues., at 6 P.M., Lecture-demonstration by Dr. C. B. Heald on Low Back Pain as a Handicap to Sport and Work: a demonstration of methods of diagnosis and treatment. No fee.—ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, Broad-street, W.C. Thurs., at 5 P.M., Mr. A. Caddy: Demonstration of Cataract and Glaucoma. No fee for attendance.—ROYAL FREE HOSPITAL, Gray's Inn-road, W.C., Wed., 5 P.M., Lecture-demonstration of Ante-Natal Diagnosis and Treatment by Prof. Dame Louise McIlroy.—CHILDREN'S CLINIC and other Hospitals. A post-graduate course in Diseases of Children, including Lecture and Demonstrations for two weeks.—HOSPITAL FOR TROPICAL DISEASES, Gordon-street, W.C. A three-weeks' course in Tropical Medicine, occupying the whole of each day.—ROYAL WATERLOO HOSPITAL, Waterloo-road, S.E. Wed., 4.30 P.M., Lecture by Dr. Gerald Slot on Recent Advances in Cardiology and in Treatment of Rheumatism.—ROYAL ALBERT DOCK HOSPITAL (Seamen's Hospital Society), Greenwich. Tues. and Wed., Course of Demonstrations on Fractures, Mr. Hope Carlton; Fri., Mr. Ernest Griffiths, at 4.30 P.M.—Further particulars from the Fellowship of Medicine.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.

MONDAY, June 15th.—10 A.M., Gynæcological Ward Visit, Genito-Urinary Operations, Skin Department. 11 A.M., Surgical Ward Visit. 2 P.M., Surgical Ward Visit. Medical, Surgical, Eye, Gynæcological Out-patients.

TUESDAY.—9.30 A.M., Operations. 10 A.M., Medical Ward Visit, Dental Department. 11 A.M., Throat Operations. 11.30 A.M., Surgical Clinical Demonstrations. 2 P.M., Medical, Surgical, Throat Out-patients, Operations, Medical Ward Visit.

WEDNESDAY.—10 A.M., Medical Ward Visit, Children's Medical Out-patients. 2 P.M., Medical, Surgical, and Eye Out-patients, Gynæcological Operations. 4.45 P.M., Venereal Diseases.

THURSDAY.—10 A.M., Neurological Department. 11.30 A.M., Treatment of Fractures. 2 P.M., Medical, Surgical, and Eye Out-patients, Genito-Urinary Department. Operations.

FRIDAY.—10 A.M., Medical Ward Visit, Skin and Dental Departments. 12 noon, Medical Lecture. 2 P.M., Medical, Surgical, and Throat Out-patients. Operations.

SATURDAY.—9 A.M., Throat Operations. 10 A.M., Medical Ward Visit, Surgical and Children's Medical Out-patients.

NATIONAL HOSPITAL, Queen-square, W.C.

MONDAY, JUNE 15th.—12 noon, Dr. Greenfield: The Cerebro-spinal Fluid. 2 P.M., Dr. Riddoch: Out-patient Clinic. 3.30 P.M., Dr. Symonds: Minor Mental Disorders.

TUESDAY.—2 P.M., Dr. Walshe: Out-patient Clinic. 3.30 P.M. Dr. Martin: Spinal Tumours.

WEDNESDAY.—2 P.M., Dr. Martin: Out-patient Clinic.

THURSDAY.—2 P.M., Dr. Kinnier Wilson: Out-patient Clinic. 3.30 P.M., Dr. Riddoch: Neurosyphilis (1).

FRIDAY.—2 P.M., Dr. Adie: Out-patient Clinic. 3.30 P.M., Dr. Collier: Muscular Atrophy.

ROYAL NORTHERN HOSPITAL, Holloway-road, N.

MONDAY, June 15th.—2.15 P.M., Dr. A. Lisle Punch: Demonstration of Technique of Lipiodol Injections. 3.15 P.M., Mr. Frederick Roques: Albuminuria during Pregnancy.

TUESDAY.—2.15 P.M., Mr. Hamilton Bailey: Swellings of the Neck (illustrated). 3.15 P.M., Dr. C. C. Beatty: Demonstration of Cases.

WEDNESDAY.—2.15 P.M., Mr. N. A. Jory: New Growths of the Larynx. 3.15 P.M., Mr. W. B. Gabriel: Septicæmia.

THURSDAY.—2.15 P.M., Dr. W. R. Reynell: States of Anxiety and Depression. 3.15 P.M., Mr. E. Wolff Pupil Reactions.

FRIDAY.—2.15 P.M., Mr. Eric I. Lloyd: The Treatment of Painful Feet. 3.15 P.M., Dr. Rubens Wade: Anæsthesia.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Keppel-street, Gower-street, W.C.

TUESDAY, June 16th.—5 P.M., Sir George Buchanan: International Hygiene.

FRIDAY.—5 P.M., Sir Thomas Legge: Industrial Poisonings.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, W.

TUESDAY, June 16th.—5 P.M., Dr. Bernard Hart: The Causation of Neurotic Disorders.

CHARING CROSS HOSPITAL MEDICAL SCHOOL POST-GRADUATE COURSE.

SUNDAY, June 14th.—10.45 A.M., Mr. E. A. Crook: Minor Surgery of the Rectum and Anal Canal. 11.45 A.M., Dr. K. S. Smith: Heart Disease in Later Life.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley-road, Balham, S.W.

WEDNESDAY, June 17th.—Visit to Bethlem Royal Hospital.

CITY OF LONDON MATERNITY HOSPITAL, City-road, E.C.

THURSDAY, June 18th.—5 P.M., Mr. Sydney Owen: The Newly Born Baby.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY, June 19th.—4 P.M., Mr. J. D. McLaggan: Treatment of Chronic Suppurative Otitis Media.

UNIVERSITY OF BIRMINGHAM.

TUESDAY, June 16th.—3.30 P.M. (at the General Hospital), Mr. G. P. Mills: Demonstration of Surgical Cases.

WEDNESDAY.—4 P.M. (in the Large Theatre of the Medical Faculty, Edmund-street), Sir Hubert Bond: Some Correlations between General and Psychological Medicine. (Fourth Lecture.)

FRIDAY (at the Queen's Hospital).—3.30 P.M., Dr. Harold Black: X-Rays in Diagnosis.

Appointments

BAIRD, DOROTHEA L., M.B., Ch.B. Edin., has been appointed Asst. Medical Officer of Health, Motherwell and Wishaw.

BROADFOOT, J. J., M.D., Ch.B., Glasg., Asst. Medical Officer of Health, Inverness.

GRANT, A. R., M.D. Aberd., Medical Superintendent of Whittingham County Mental Hospital.

MACKENZIE, J. C. H., M.D., Ch.B. Glasg., Asst. Medical Officer of Health, Burton.

MILWARD, F. J., M.Ch. Camb., F.R.C.S. Eng., Hon. Surgeon to Chesterfield Royal Hospital.

PRITCHARD, E. A BLAKE, M.D. Camb., Assist Physician to the Hospital for Epilepsy and Paralysis, Maida Vale.

SIMPSON, A. S., M.B., B.S. Lond., Medical Officer of Health of Stalybridge.

Royal Free Hospital, Gray's Inn-road, W.C.: BARRY-GERALDINE, M.S. Lond., F.R.C.S. Eng., Asst. Surgeon.—McLAGGAN, J. D., F.R.C.S. Eng. and Edin., Asst. Surgeon to the Ear, Nose, and Throat Dept.

Certifying Surgeons under the Factory and Workship Acts: FARR, R. V., L.R.C.P. Lond., M.R.C.S., (Henly-in-Arden): SHEARER, O. C. G., M.B., Ch.B. Aberd., (Dalston, Cumberland).

Vacancies

For further information refer to the advertisement columns.

Accrington Victoria Hospital.—H.S. £150.

All Saints' Hospital, 91, Finchley-road, N.W.—H.S. At rate of £150.

Barnsley, Beckett Hospital and Dispensary. H.P. £200.

Bath and Wessex Children's Orthopædic Hospital, Combe Park.—H.S. At rate of £120.

Birmingham and Midland Eye Hospital.—Res. Surg. O. £150.

Birmingham City Babies' Hospital.—Res. M.O. At rate of £100.

Birmingham, Ear and Throat Hospital, Edmund-street, —H.S. At rate of £150.

Birmingham General Hospital.—Two Res. Anæsthetists. Each £120. Also H.S. £70.

Birmingham, Queen's Hospital.—Hon. Phys.

Bolingbroke Hospital, Wandsworth Common, S.W.—Hon. Physician for Diseases of Children.
Bolton Infirmary and Dispensary.—Two H.S.'s. Each £150.
Bootle General Hospital.—H.P. At rate of £150.
Bradford Royal Eye and Ear Hospital.—Jun. H.S. £150.
Brighton, Sussex Eye Hospital.—Hon. Clin. Asst.
Bristol General Hospital.—Two H.P.'s, Two H.S.'s, Res. Obstet. O., and H.S. to Spec. Depts. All at rate of £80. Also Cas. H.S. At rate of £100.
Bury St. Edmunds, West Suffolk General Hospital.—H.P. and Obstet. O. £150.
Cardiff, Medical Unit Laboratories.—Laboratory Asst. £5 weekly.
Cardiff, Welsh National School of Medicine.—Jun. Asst. £30.
Chesterfield and North Derbyshire Royal Hospital.—Cas. O. At rate of £200.
Derby, Derbyshire Royal Infirmary.—Cas. O. At rate of £150. Also Ophth. H.S. £150.
Derby, Walton Sanatorium, near Chesterfield.—Locum Res. Asst. M.O. At rate of £350.
Doncaster Royal Infirmary.—H.S. At rate of £175.
Dorchester, Dorset County Hospital.—H.S. At rate of £160.
Dudley, Guest Hospital.—Two H.S.'s. £160–£170.
Durham County Hospital.—H.S. £150.
Edinburgh, Royal Hospital for Mental and Nervous Disorders.—Asst. Physician. £400.
Elizabeth Garrett Anderson Hospital, Euston-road.—Asst. Radiologist. £100. Also 2nd H.S., and Obstet. Asst. Each at rate of £50.
Evelina Hospital for Children, Southwark, S.E.—Cas. and Out-Patient Officer. At rate of £120.
Gloucester, Gloucestershire Royal Infirmary, &c.—H.S. At rate of £120.
Hampstead General and N.W. London Hospital, Haverstock-hill, N.W.—H.S. and H.P. Each at rate of £100.
Hertford County Hospital.—H.S. At rate of £200.
Hospital for Sick Children, Great Ormond-street, W.C.—Part-time Jun. Cas. O. At rate of £150.
Hospital for Tropical Diseases, Endsleigh-gardens, W.C.—H.P. At rate of £150.
Hospital for Women, Soho-square, W.—Hon. Phys.
Huddersfield, Bradley Wood Sanatorium for Pulmonary and Surgical Tuberculosis.—Res. M.O. and Asst. M.O.H. £500.
Huddersfield Royal Infirmary.—H.S. At rate of £150.
Hull Royal Infirmary.—3rd H.S. At rate of £150.
Indian Medical Service.—Commissions.
Ipswich, East Suffolk and Ipswich Hospital.—Cas. O. £120.
King's Lynn, West Norfolk and King's Lynn General Hospital.—Jun. H.S. At rate of £125.
Leeds, Gateforth Sanatorium.—Res. M.O. £450.
Liverpool, Hahnemann Hospital.—Res. M.O. At rate of £100.
London Jewish Hospital, Stepney Green, E.—Asst. Gynæcologist.
London University.—Examinerships.
Manchester Ear Hospital, Grosvenor-sq., All Saints.—H.S. £150.
Manchester Royal Eye Hospital.—Jun. H.S. £120.
Manchester Royal Infirmary.—H.S. At rate of £100–£200. Also Res. Surg. Reg. to Out-patients. At rate of £150.
Middlesbrough Municipal Hospital, &c.—Jun. Res. M.O. At rate of £160.
Middlesex C.C., Redhill Hospital, Edgware, and Park Royal Hospital, Willesden.—2 Res. Asst. M.O.'s. Each £400.
Miller General Hospital, Greenwich, S.E.—H.P. and H.S. Each at rate of £125. Also Out-patient Officer. At rate of £150.
Newcastle General Hospital.—Two H.P.'s and Three H.S.'s. All at rate of £100. Also Part-time Pathologist. At rate of £150.
Newcastle-upon-Tyne City Hospital for Infectious Diseases.—Res. Med. Asst. £350.
Newcastle-upon-Tyne, Royal Victoria Infirmary.—Hon. Asst. Surg.
Newport, Mon., Royal Gwent Hospital.—Jun. Res. M.O. £135.
Norwich City.—Asst. M.O.H., &c. £500.
Nottingham City Infirmary.—4th Res. M.O. £350.
Nottingham City Mental Hospital.—Jun. Asst. M.O. £350–£400.
Nottingham General Hospital.—H.S. At rate of £150.
Oldham Royal Infirmary.—H.P. and Cas. O. Each at rate of £175.
Oswestry, Shropshire Orthopædic Hospital and Agnes Hunt Surgical Home.—H.S. At rate of £200.
Paddington Green Children's Hospital, W.—Hon. Surgeon to Ear, Nose, and Throat Dept.
Plymouth Central Hospital.—H.S. At rate of £150.
Portsmouth, St. Mary's Hospital, &c.—Third Asst. Res. M.O. £250.
Queen's Hospital for Children, Hackney-road, E.—Two Anæsthetists. Each £25. Also Res. M.O. At rate of £200.
Reading, Royal Berkshire Hospital.—H.P. and a Res. Anæsthetist. Each at rate of £150.
Rotherham Hospital.—Cas. H.S. £150.
Royal Eye Hospital, St. George's-circus, Southwark, S.E.—Asst. H.S. At rate of £100.
Royal National Orthopædic Hospital, 234, Gt. Portland-street, W.—Asst. Reg. Surg. for Country Branch. Stanmore. £350.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—Cas. O. £200. Also H.S. At rate of £100.
St. Alfege's Hospital, Vanbrugh-hill, Greenwich.—Asst. M.O. At rate of £250.
St. Peter's Hospital for Stone, &c., Henrietta-street, Covent Garden, W.C.—Clin. Assts.
Samaritan Free Hospital for Women, Marylebone-road, N.W.—Registrar. £130.
Scunthorpe and District War Memorial Hospital.—2nd Res. Surg. £150.
Sheffield Children's Hospital.—3rd Res. M.O. At rate of £80.
Sheffield, Jessop Hospital for Women.—Three Asst. H.S.'s. Each at rate of £100.
Sheffield Royal Infirmary.—H.S., Ophth. H.S., Asst. Aural and Ophth. H.S. Each at rate of £80.
Southampton Free Eye Hospital.—H.S. £150.
Southampton, Royal South Hants and Southampton Hospital.—Res. H.P. Also H.P. and Cas. O. All at rate of £180.
South London Hospital for Women, Clapham Common, S.W.—Two H.S.'s. Each at rate of £100.
Stockport Infirmary.—H.S. £175.
Stoke-on-Trent, North Staffordshire Royal Infirmary.—Asst. H.P. £125.
Swansea General and Eye Hospital.—H.P. £150.
Surrey County Council.—Asst. M.O. £600.
Walsall General Hospital.—H.S. At rate of £150.
Warwick County Mental Hospital, Hatton.—2nd Asst. M.O. £450.
West London Hospital, Hammersmith-road, W.—H.P. and two H.S.'s. All at rate of £100.
West End Hospital for Nervous Diseases, Gloucester-gate, Regent's Park, N.W.—Jun. H.P. At rate of £100.
Willesden General Hospital, N.W.—Hon. Clin. Asst. to Surgical Out-patient Dept.
Winchester, Royal Hampshire County Hospital.—H.S. At rate of £150.
Wolverhampton, Royal Hospital.—H.S. At rate of £100. Also Hon. Fracture and Orthopædic Surgeon.
Woolwich and District War Memorial Hospital, Shooters Hill, S.E.—H.P. At rate of £100.
York, The Retreat.—Sen. Asst. M.O. £400–£500.

The Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act for the Districts of the Brentwood, Chelmsford, Colchester, Clacton and Halstead, Dunmow and Braintree, Harwich, and Maldon County Courts. Applications should reach the Private Secretary, Home Office, Whitehall, S.W., not later than June 27th.

The Chief Inspector of Factories announces the following vacant appointments for Certifying Factory Surgeons:—Brynamman (Carm.), Tenterden (Kent), Wolston (Warwickshire), Hednesford (Staffs.), Mauchline (Ayr), Burgess Hill (Sussex), and Youlgreave (Derbyshire).

Births, Marriages, and Deaths

BIRTHS.

COLLIS.—On May 28th, at Brunswick-square, London, the wife of W. Robert FitzGerald Collis, M.D., of a son.

COLWILL.—On June 1st, at St. John's Wood-terrace, N.W., the wife of Dr. C. K. Colwill, of a son.

WALKER.—On June 3rd, at Welbeck-street, W., the wife of F. H. Aitken Walker, F.R.C.S., Belsize-lane, Hampstead, N.W., of a son.

WHYTE.—On June 8th, at Mecklenburgh-square, W.C., the wife of Alexander F. Whyte, M.B., of a daughter.

MARRIAGES.

MAXWELL—PLUMMER.—On June 1st, at St. Peter's Church, Vere-street, D. M. W. Maxwell, M.B., Ch.B., F.R.C.S. Edin., to Maude Mary Plummer, daughter of Mr. E. A. Plummer and the late Mrs. Plummer, Nottingham.

MONTGOMERY—TURTINGTON.—On June 5th, at St. Peters, South Croydon, Stephen King Montgomery, M.D., M.R.C.S., D.R. (Edin.), B.Sc., to Emily Turtington, of Croydon.

TOWNSEND—DALTRY.—On June 2nd, at St. Leonard's, Woore, Charles Geoffrey Townsend, M.A., M.B., of Beaconsfield, Bucks, to Alice Margaret, only daughter of the Rev. Sidney J. Daltry, M.A., F.R.G.S., vicar of Woore, Salop, and the late Mrs. Annie Daltry, of Lostwithiel, Cornwall.

DEATHS.

GOSSET.—On May 10th, at Watlington, Oxon., George Gosset, M.R.C.S., L.R.C.P., of Sumner, Christchurch, New Zealand, aged 83.

JACKSON.—On June 2nd, Ernest David Jackson, M.B., of Queen Anne-street, W., aged 51 years.

MILSOM.—On June 2nd, Ernleigh Guy Durham Milsom, M.D., M.R.C.S., L.R.C.P., of Eccleston-square, London.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages and Deaths.

INFANTS' HOSPITAL, WESTMINSTER.—Last year there were 670 in-patients including 59 nursing mothers, and 2368 out-patients; 113 patients were sent to the convalescent homes, where the average stay was 51 days. Expenditure exceeded income by nearly £2000. More than £100,000 is now available for extension of the hospital, and arrangements are being made for putting in hand the first part of the building.

BIRMINGHAM SKIN HOSPITAL.—The annual report of this hospital, which is keeping its jubilee this week, states that last year there were 320 in-patients and 8434 new out-patients. The medical report records increased work and further use of radium needles. The practice of giving smaller doses for longer periods necessitates the longer occupation of beds, the number of which is said to be entirely inadequate.

NOTES, COMMENTS, AND ABSTRACTS

ROYAL COLLEGE OF SURGEONS OF AUSTRALASIA.

OUR last issue contained mention (p. 1256) of the arms lately granted to this College. The accompanying illustration shows the achievement approved by the College of Heralds. The heraldic description is as follows:—

Or and argent between a St. George's cross upon which is imposed a flaming torch or between two serpents each encircled proper. In cantons one and four, a Swan sable; in cantons two and three a Lymphad sable. On a chief azure, a rising Sun in glory.

Supporters: Dexter, Chiron; Sinister, Apollo.
Crest: a female Sphynx affrontée, winged and surrounded by an aureole of sun's rays; on a torse of the colours, Blue and Gold.
The whole standing upon a mount vert, arising from the Southern Hemisphere, in front of which is a scroll bearing the motto: "Fax Mentis Incendium Gloriæ."

Chiron, as the menter of Nestor, may be regarded as the father of wisdom. He holds a bow as a symbol that he could protect education by force. Apollo, god of healing, holds his best known symbol, the harp, to show he can instil knowledge by gentle means. The lymphad, symbol of discovery by sea, is used in preference to a Viking or long ship, because this latter suggests discovery by Norsemen.

HEROES OF HEALTH.

THE importance of health and the need for prevention of disease are the points chiefly emphasised in a little book[1] designed for children about to leave African schools. The better to secure their interest and fire their enthusiasm the author tells the story of how disease in different forms and in different countries was fought and conquered by the great pioneers of preventive medicine. She describes the achievements of Pasteur, Manson, Ross, and a host of others less well known in simple language which cannot fail to arouse interest. The desire to impress on the young African the value of the scientific discoveries of our Western civilisation is obvious throughout, and she is to be congratulated on the skill and tact with which she attains her objective. "Heroes of Health" is a book which might be read with profit by most lay persons—old or young—and there are many chapters which could be read aloud with advantage to boys and girls in our own schools.

[1] Heroes of Health. By G. A. Gollock. With foreword by Sir Andrew Balfour, K.C.M.G., C.B., M.D. London: Longmans, Green and Co., Ltd. 1930. Pp. 178. 3s. 6d.

SLEEP.

BOUND in a colour which would keep people awake, and written in a racy, attractive style which would certainly not induce sleep in a reader, an interesting and informative volume[1] on sleep has reached us. It is written in the manner of an educational talkie, but is none the less useful. It deals with the nature of sleep as a biological need, and shows how the organism is only healthy when this periodic rest of all functions occurs regularly and in quantity requisite to the age and occupation of the subject. It deals with the sort of things that make for sleeplessness in everyday life and which more scientific treatises might scorn as beneath contempt. But ordinary people who are harassed by insomnia are not interested in scientific theories, but are prepared to take any advice which will bring them the balm of sleep. After discussing the sort of surroundings, the sort of people, the sort of occupation, and the manifold anxieties apart from physical disease which rob us of our sleep, the authors give amusing but none the less very sensible advice on the rooms we should sleep in, the source of light, and even the size and consistency of the bed. Persons of all ages from babyhood to old age are given sensible words of advice, and few medical men would fail to gain oddments of useful information from reading the book through.

[1] Sleep. By Donald A. Laird, Ph.D., Sc.D., and Charles G. Muller. London: Williams and Norgate, Ltd. Pp. 212. 6s.

ROYAL MEDICAL BENEVOLENT FUND.

At a recent meeting of the committee 59 grants were made, amounting to £1341. The following are particulars of a few cases helped.

Dr. X., aged 65, married. At the special request of the hon. secretary of the local British Medical Association Division an emergency grant of £10 was given, also an annual grant of £40, payable in four instalments. Owing to being crippled with rheumatism, the applicant has been unable to carry out his professional duties, and he and his wife were known to be nearly destitute and suffering from lack of food.

Widow, aged 78, of M.R.C.S. When her husband died in 1911 she went to live with her only son who had a dental practice. When the son married ten years ago his mother continued to live with him, for she had no home of her own nor the means to support one. The son died three weeks ago, and the applicant was stranded; the furniture and little else went to his widow. The applicant suffers much from chronic asthma, and at her age (78) it is impossible for her to follow any remunerative occupation. The Fund voted an annual grant of £26, and is endeavouring to obtain further help from other societies.

Widow, aged 70, of M.R.C.S. Has maintained herself since 1899 by working as a companion housekeeper. Her employer died August, 1930. She is now too old to obtain other employment and her income consists of the old age pension of £26 and a grant of £25 from the Indigent Gentlewomens Society, making £51. She feels her position very acutely, and it was only with a great deal of persuasion that she would consent to an application being made to the Committee. Fund voted £26.

Daughters, aged 76 and 69, of M.R.C.S. These two sisters who, on the death of their father in 1871, were left comfortably off, now, through the reduction of dividends, were found to be sharing a total income of £89 a year out of which they have to pay rates of £12. Fund voted annual grant of £20 to each sister.

Dr. Y., aged 75, married. Gave up practice in 1927 to undergo a serious operation from which he made a good recovery. Since then he has been doing locum work from time to time. His last employment was for 13 months, which ended in September, 1930. Since then he has been unable to find work and has been drawing on his capital, which is now reduced to £45. His wife was trying to find employment but recently met with an accident and is in hospital. Fund voted £40.

Subscriptions and donations should be forwarded to the hon. treasurer of the Fund, 11, Chandos-street, London, W.1.